

Appendix A. Considered But Rejected Alternatives

This section describes actions and alternatives that the South Atlantic Fishery Management Council (South Atlantic Council) considered in developing Regulatory Amendment 22 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region (Regulatory Amendment 22), but decided not to pursue. The description of each alternative is followed by a summary statement of why it was eliminated from Regulatory Amendment 22.

Gag

Alternative 2. Revise the composition of the aggregate grouper bag limit by removing gag and specify the recreational gag bag limit.

Select one as preferred:

Sub-alternative 2a. Specify the gag bag limit of 2 per person per day

Sub-alternative 2b. Specify the gag bag limit of 3 per person per day

Select as preferred if also revising the aggregate grouper bag limit:

Sub-alternative 2c. Specify an aggregate bag limit of 2 per person per day

Alternatives	1	2a	2b	2c
Aggregate grouper bag Limit	3 fish Includes gag	3 fish/No gag	3 fish/No gag	2 fish/No gag
Recreational Gag Bag Limit	N/A	2 fish	3 fish	2 or 3 (depending on if 2a or 2b was chosen)

Discussion:

This alternative and its sub-alternatives were removed from further consideration because the Council did not wish to consider removing gag from the aggregate grouper bag limit. The way the alternative and its sub-alternatives are structured did not allow the Council the flexibility to make changes to the gag bag limit without also affecting the composition of the aggregate. The Council did not want there to be any confusion as to their intent to only consider changing the bag limit for gag within the exiting 3-fish aggregate. Therefore, the Council requested that staff re-word the action and alternatives appropriately.

Appendix B. Glossary

Acceptable Biological Catch (ABC): Maximum amount of fish stock than can be harvested without adversely affecting recruitment of other components of the stock. The ABC level is typically higher than the total allowable catch, leaving a buffer between the two.

ALS: Accumulative Landings System. NMFS database which contains commercial landings reported by dealers.

Biomass: Amount or mass of some organism, such as fish.

B_{MSY}: Biomass of population achieved in long-term by fishing at F_{MSY}.

Bycatch: Fish harvested in a fishery, but not sold or kept for personal use. Bycatch includes economic discards and regulatory discards, but not fish released alive under a recreational catch and release fishery management program.

Caribbean Fishery Management Council (CFMC): One of eight regional councils mandated in the Magnuson-Stevens Fishery Conservation and Management Act to develop management plans for fisheries in federal waters. The CFMC develops fishery management plans for fisheries off the coast of the U.S. Virgin Islands and the Commonwealth of Puerto Rico.

Catch Per Unit Effort (CPUE): The amount of fish captured with an amount of effort. CPUE can be expressed as weight of fish captured per fishing trip, per hour spent at sea, or through other standardized measures.

Charter Boat: A fishing boat available for hire by recreational anglers, normally by a group of anglers for a short time period.

Cohort: Fish born in a given year. (See year class.)

Control Date: Date established for defining the pool of potential participants in a given management program. Control dates can establish a range of years during which a potential participant must have been active in a fishery to qualify for a quota share.

Constant Catch Rebuilding Strategy: A rebuilding strategy where the allowable biological catch of an overfished species is held constant until stock biomass reaches B_{MSY} at the end of the rebuilding period.

Constant F Rebuilding Strategy: A rebuilding strategy where the fishing mortality of an overfished species is held constant until stock biomass reached B_{MSY} at the end of the rebuilding period.

Directed Fishery: Fishing directed at a certain species or species group.

Discards: Fish captured, but released at sea.

Discard Mortality Rate: The percent of total fish discarded that do not survive being captured and released at sea.

Derby: Fishery in which the TAC is fixed and participants in the fishery do not have individual quotas. The fishery is closed once the TAC is reached, and participants attempt to maximize their harvests as quickly as possible. Derby fisheries can result in capital stuffing and a race for fish.

Effort: The amount of time and fishing power (i.e., gear size, boat size, horsepower) used to harvest fish.

Exclusive Economic Zone (EEZ): Zone extending from the shoreline out to 200 nautical miles in which the country owning the shoreline has the exclusive right to conduct certain activities such as fishing. In the United States, the EEZ is split into state waters (typically from the shoreline out to 3 nautical miles) and federal waters (typically from 3 to 200 nautical miles).

Exploitation Rate: Amount of fish harvested from a stock relative to the size of the stock, often expressed as a percentage.

F: Fishing mortality.

Fecundity: A measurement of the egg-producing ability of fish at certain sizes and ages.

Fishery Dependent Data: Fishery data collected and reported by fishermen and dealers.

Fishery Independent Data: Fishery data collected and reported by scientists who catch the fish themselves.

Fishery Management Plan: Management plan for fisheries operating in federal waters produced by regional fishery management councils and submitted to the Secretary of Commerce for approval.

Fishing Effort: Usually refers to the amount of fishing. May refer to the number of fishing vessels, amount of fishing gear (nets, traps, hooks), or total amount of time vessels and gear are actively engaged in fishing.

Fishing Mortality: A measurement of the rate at which fish are removed from a population by fishing. Fishing mortality can be reported as either annual or instantaneous. Annual mortality is the percentage of fish dying in one year. Instantaneous is that percentage of fish dying at any one time.

Fishing Power: Measure of the relative ability of a fishing vessel, its gear, and its crew to catch fishes, in reference to some standard vessel, given both vessels are under identical conditions.

F_{30%SPR}: Fishing mortality that will produce a static SPR = 30%.

F_{45%SPR}: Fishing mortality that will produce a static SPR = 45%.

F_{OY}: Fishing mortality that will produce OY under equilibrium conditions and a corresponding biomass of B_{OY}. Usually expressed as the yield at 85% of F_{MSY}, yield at 75% of F_{MSY}, or yield at 65% of F_{MSY}.

F_{MSY}: Fishing mortality that if applied constantly, would achieve MSY under equilibrium conditions and a corresponding biomass of B_{MSY}.

Fork Length (FL): The length of a fish as measured from the tip of its snout to the fork in its tail.

Gear restrictions: Limits placed on the type, amount, number, or techniques allowed for a given type of fishing gear.

Growth Overfishing: When fishing pressure on small fish prevents the fishery from producing the maximum poundage. Condition in which the total weight of the harvest from a fishery is improved when fishing effort is reduced, due to an increase in the average weight of fishes.

Gulf of Mexico Fishery Management Council (GFMC): One of eight regional councils mandated in the Magnuson-Stevens Fishery Conservation and Management Act to develop management plans for fisheries in federal waters. The GFMC develops fishery management plans for fisheries off the coast of Texas, Louisiana, Mississippi, Alabama, and the west coast of Florida.

Head Boat: A fishing boat that charges individual fees per recreational angler onboard.

Highgrading: Form of selective sorting of fishes in which higher value, more marketable fishes are retained, and less marketable fishes, which could legally be retained are discarded.

Individual Fishing Quota (IFQ): Fishery management tool that allocates a certain portion of the TAC to individual vessels, fishermen, or other eligible recipients.

Longline: Fishing method using a horizontal mainline to which weights and baited hooks are attached at regular intervals. Gear is either fished on the bottom or in the water column.

Magnuson-Stevens Fishery Conservation and Management Act: Federal legislation responsible for establishing the fishery management councils and the mandatory and discretionary guidelines for federal fishery management plans.

Marine Recreational Fisheries Statistics Survey (MRFSS): Survey operated by NMFS in cooperation with states that collects marine recreational fisheries data.

Marine Recreational Information Program (MRIP): Survey operated by NMFS in cooperation with states that collects marine recreational fisheries data. It replaced the MRFSS survey.

Maximum Fishing Mortality Threshold (MFMT): The rate of fishing mortality above which a stock's capacity to produce MSY would be jeopardized.

Maximum Sustainable Yield (MSY): The largest long-term average catch that can be taken continuously (sustained) from a stock or stock complex under average environmental conditions.

Median: The midpoint of a frequency distribution of observed values or quantities, such that there is an equal probability of falling above or below it.

Minimum Stock Size Threshold (MSST): The biomass level below which a stock would be considered overfished.

Modified F Rebuilding Strategy: A rebuilding strategy where fishing mortality is changed as stock biomass increases during the rebuilding period.

Multispecies fishery: Fishery in which more than one species is caught at the same time and location with a particular gear type.

National Marine Fisheries Service (NMFS): Federal agency within NOAA responsible for overseeing fisheries science and regulation.

National Oceanic and Atmospheric Administration: Agency within the Department of Commerce responsible for ocean and coastal management.

Natural Mortality (M): A measurement of the rate at which fish are removed from a population by natural causes. Natural mortality can be reported as either annual or instantaneous. Annual mortality is the percentage of fish dying in one year. Instantaneous is that percentage of fish dying at any one time.

Optimum Yield (OY): The amount of catch that will provide the greatest overall benefit to the nation, particularly with respect to food production and recreational opportunities and taking into account the protection of marine ecosystems.

Overfished: A stock or stock complex is considered overfished when stock biomass falls below the minimum stock size threshold (MSST) (e.g., current biomass < MSST = overfished).

Overfishing: Overfishing occurs when a stock or stock complex is subjected to a rate of fishing mortality that exceeds the maximum fishing mortality threshold (e.g., current fishing mortality rate > MFMT = overfishing).

Quota: Percent or annual amount of fish that can be harvested.

Recruitment (R): Number or percentage of fish that survives from hatching to a specific size or age.

Recruitment Overfishing: The rate of fishing above which the recruitment to the exploitable stock becomes significantly reduced. This is characterized by a greatly reduced spawning stock, a decreasing proportion of older fish in the catch, and generally very low recruitment year after year.

Scientific and Statistical Committee (SSC): Fishery management advisory body composed of federal, state, and academic scientists, which provides scientific advice to a fishery management council.

Selectivity: The ability of a type of gear to catch a certain size or species of fish.

South Atlantic Fishery Management Council (SAFMC): One of eight regional councils mandated in the Magnuson-Stevens Fishery Conservation and Management Act to develop management plans for fisheries in federal waters. The SAFMC develops fishery management plans for fisheries off North Carolina, South Carolina, Georgia, and the east coast of Florida.

Spawning Potential Ratio (Transitional SPR): Formerly used in overfished definition. The number of eggs that could be produced by an average recruit in a fished stock divided by the number of eggs that could be produced by an average recruit in an unfished stock. SPR can also be expressed as the spawning stock biomass per recruit (SSBR) of a fished stock divided by the SSBR of the stock before it was fished.

% Spawning Per Recruit (Static SPR): Formerly used in overfishing determination. The maximum spawning per recruit produced in a fished stock divided by the maximum spawning per recruit, which occurs under the conditions of no fishing. Commonly abbreviated as %SPR.

Spawning Stock Biomass (SSB): The total weight of those fish in a stock which are old enough to spawn.

Spawning Stock Biomass Per Recruit (SSBR): The spawning stock biomass divided by the number of recruits to the stock or how much spawning biomass an average recruit would be expected to produce.

Total Allowable Catch (TAC): The total amount of fish to be taken annually from a stock or stock complex. This may be a portion of the Allowable Biological Catch (ABC) that takes into consideration factors such as bycatch.

Total Length (TL): The length of a fish as measured from the tip of the snout to the tip of the tail.

Appendix C. Other Applicable Law

1.1 Administrative Procedure Act (APA)

All federal rulemaking is governed under the provisions of the APA (5 U.S.C. Subchapter II), which establishes a “notice and comment” procedure to enable public participation in the rulemaking process. Under the APA, the National Marine Fisheries Service (NMFS) is required to publish notification of proposed rules in the *Federal Register* and to solicit, consider and respond to public comment on those rules before they are finalized. The APA also establishes a 30-day wait period from the time a final rule is published until it takes effect, with some exceptions. Regulatory Amendment 22 to the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region (Regulatory Amendment 22) complies with the provisions of the APA through the South Atlantic Fishery Management Council’s (Council) extensive use of public meetings, requests for comments and consideration of comments. The proposed rule associated with this amendment will have a request for public comments, which complies with the APA, and upon publication of the final rule, there will be a 30-day wait period before the regulations are effective.

1.2 Information Quality Act (IQA)

The IQA (Section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Public Law 106-443)) which took effect October 1, 2002, directed the Office of Management and Budget (OMB) to issue government-wide guidelines that “provide policy and procedural guidelines to federal agencies for ensuring and maximizing the quality, objectivity, utility, and integrity of information disseminated by federal agencies.” OMB directed each federal agency to issue its own guidelines, establish administrative mechanisms allowing affected persons to seek and obtain correction of information that does not comply with OMB guidelines, and report periodically to OMB on the number and nature of complaints. The NOAA Section 515 Information Quality Guidelines require a series of actions for each new information product subject to the IQA. Regulatory Amendment 22 has used the best available scientific information and made a broad presentation thereof. The information contained in this document was developed using best available scientific information. Therefore, this document is in compliance with the IQA.

1.3 Coastal Zone Management Act (CZMA)

Section 307(c)(1) of the federal CZMA of 1972 requires that all federal activities that directly affect the coastal zone be consistent with approved state coastal zone management programs to the maximum extent practicable. While it is the goal of the Council to have management measures that complement those of the states, federal and state administrative procedures vary and regulatory changes are unlikely to be fully instituted at the same time. The Council believes this document is consistent to the maximum extent practicable with the Coastal Zone Management Plans of Florida, Georgia, South Carolina, and North Carolina. This determination will be submitted to the responsible state agencies under Section 307 of the CZMA administering approved Coastal Zone Management Programs in the States of Florida, South Carolina, Georgia, and North Carolina.

1.4 Endangered Species Act (ESA)

The ESA of 1973 (16 U.S.C. Section 1531 et seq.) requires that federal agencies must ensure actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of threatened or endangered species or the habitat designated as critical to their survival and recovery. The ESA requires NMFS to consult with the appropriate administrative agency (itself for most marine species, and the U.S. Fish and Wildlife Service for all remaining species) when proposing an action that may affect threatened or endangered species or adversely modify critical habitat. Consultations are necessary to determine the potential impacts of the proposed action. They are concluded informally when proposed actions may affect but are “not likely to adversely affect” threatened or endangered species or designated critical habitat. Formal consultations, resulting in a biological opinion, are required when proposed actions may affect and are “likely to adversely affect” threatened or endangered species or adversely modify designated critical habitat. NMFS completed a biological opinion (NMFS 2006) in 2006 evaluating the impacts of the continued authorization of the South Atlantic snapper grouper fishery under the Fishery Management Plan for the Snapper Grouper Fishery of the South Atlantic Region (Snapper Grouper FMP) and Amendment 13C to the Snapper Grouper FMP on ESA-listed species (see **Chapter 3**). The opinion concluded the fishery was not likely to adversely affect North Atlantic right whale critical habitat or ESA-listed marine mammals (see NMFS 2006 for discussion on these species). The opinion also concluded that the snapper grouper fishery is likely to adversely affect sea turtles and smalltooth sawfish, but is not likely to not jeopardize their continued existence. An incidental take statement was issued for green, hawksbill, Kemp’s ridley, leatherback, and loggerhead sea turtles, as well as smalltooth sawfish. Reasonable and prudent measures to minimize the impact of these incidental takes were specified, along with terms and conditions to implement them. See NMFS (2006) for a full discussion of impacts to sea turtles and smalltooth sawfish.

Regulations implemented through Amendment 15B to the Snapper Grouper FMP (74 FR 31225; June 30, 2009) required all commercial or charter/headboat vessels with a South Atlantic snapper grouper permit, carrying hook-and-line gear on board, to possess required literature and release gear to aid in the safe release of incidentally caught sea turtles and smalltooth sawfish. Comprehensive Ecosystem-Based Amendment 2 modified these requirements (76 FR 82183; December 30, 2011) by requiring different gear for vessels with different freeboard heights, mirroring the requirements in the Gulf of Mexico. These regulations are thought to decrease the mortality associated with incidental interactions with sea turtles and smalltooth sawfish.

Subsequent to the June 7, 2006, biological opinion, elkhorn and staghorn coral (*Acropora cervicornis* and *Acropora palmata*) were listed as threatened. In a consultation memorandum dated July 9, 2007, NMFS concluded the continued authorization of the South Atlantic snapper grouper fishery is not likely to adversely affect these *Acropora* species. On November 26, 2008, *Acropora* critical habitat was designated. In a consultation memorandum dated December 2, 2008, NMFS concluded the continued authorization of the snapper grouper fishery is not likely to adversely affect *Acropora* critical habitat.

On September 22, 2011, NMFS and the U.S. Fish and Wildlife Service determined the loggerhead sea turtle population consists of nine distinct population segments (DPSs) (76 FR 58868). Previously, loggerhead sea turtles were listed as threatened species throughout their global range. The snapper grouper fishery interacts with loggerhead sea turtles from what is now considered the Northwest Atlantic (NWA) DPS, which remains listed as threatened. Five DPSs of Atlantic sturgeon were also

listed since the completion of the 2006 biological opinion. In a consultation memorandum dated February 15, 2012, NMFS concluded the continued authorization of the South Atlantic snapper grouper fishery is not likely to adversely affect the Atlantic sturgeon. The February 15, 2012, memorandum also stated that because the 2006 biological opinion had evaluated the impacts of the fishery on the loggerhead subpopulations now wholly contained within the NWA DPS, the opinion's conclusion that the fishery is not likely to jeopardize the continued existence of loggerhead sea turtles remains valid.

On July 10, 2014, NMFS published a final rule designating critical habitat for the Northwest Atlantic Ocean (NWA) Loggerhead Sea Turtle DPS in the *Federal Register* (79 FR 39856). The final rule, effective August 11, 2014, designates 38 marine areas within the Atlantic Ocean and Gulf of Mexico, which contain the physical or biological features essential for the conservation of the loggerhead sea turtle. A memorandum dated September 16, 2014, evaluated the effects of continued authorization of federal fisheries, including snapper grouper, on the newly-designated critical habitat. The memo concluded that activities associated with the snapper grouper fishery would not adversely affect any of the NWA loggerhead DPS critical habitat units.

On September 10, 2014, NMFS published its final rule maintaining elkhorn coral (*Acropora palmata*) and staghorn coral (*A. cervicornis*) as threatened and listing the following corals as threatened under the ESA: pillar coral (*Dendrogyra cylindrus*), rough cactus coral (*Mycetophyllia ferox*), lobed star coral (*Orbicella annularis*), mountainous star coral (*O. faveolata*), and boulder star coral (*O. franksi*). In a consultation memorandum dated September 11, 2014, NMFS concluded the continued authorization of the South Atlantic snapper grouper fishery was still not likely to adversely affect listed-*Acropora* species and was not likely to adversely affect the five newly listed species.

1.5 Executive Order 13132: Federalism

E.O. 13132 requires agencies to be guided by the fundamental federalism principles when formulating and implementing policies that have federalism implications. The purpose of the Order is to guarantee the division of governmental responsibilities between the federal government and the states, as intended by the framers of the Constitution. No federalism issues have been identified relative to the actions proposed in this document and associated regulations. Therefore, preparation of a Federalism assessment under E.O. 13132 is not necessary.

1.6 Executive Order 12866: Regulatory Planning and Review

E.O. 12866, signed in 1993, requires federal agencies to assess the costs and benefits of their proposed regulations, including distributional impacts, and to select alternatives that maximize net benefits to society. To comply with E.O. 12866, NMFS prepares a Regulatory Impact Review (RIR) for all fishery regulatory actions that implement a new fishery management plan (FMP) or that significantly amend an existing plan. RIRs provide a comprehensive analysis of the costs and benefits to society associated with proposed regulatory actions, the problems and policy objectives prompting the regulatory proposals, and the major alternatives that could be used to solve the problems. The reviews also serve as the basis for the agency's determinations as to whether proposed regulations are a "significant regulatory action" under the criteria provided in E.O. 12866 and whether proposed regulations will have a significant economic impact on a substantial number of small entities in compliance with the Regulatory Flexibility Act. A regulation is significant if it is likely to result in an annual effect on the economy of at least \$100,000,000 or if it has other major economic effects.

In accordance with E.O. 12866, the following is set forth by the Council: (1) this rule is not likely to have an annual effect on the economy of more than \$100 million or to adversely affect in a material way the economy, a sector of the economy, productivity, jobs, the environment, public health or safety, or state, local, or tribal governments or communities; (2) this rule is not likely to create any serious inconsistencies or otherwise interfere with any action taken or planned by another agency; (3) this rule is not likely to materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights or obligations of recipients thereof; (4) this rule is not likely to raise novel or policy issues arising out of legal mandates, or the principles set forth in the Executive Order; and (5) this rule is not controversial.

This amendment includes the RIR as **Appendix G**.

1.7 Executive Order 12898: Environmental Justice

E.O. 12898 requires that “to the greatest extent practicable and permitted by law...each federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority populations and low-income populations in the United States and its territories and possessions...”

The alternatives being considered in this document are not expected to result in any disproportionate adverse human health or environmental effects to minority populations or low-income populations of Florida, North Carolina, South Carolina, or Georgia, rather the impacts would be spread across all participants in the gag or wreckfish portion of the snapper grouper fishery regardless of race or income. A detailed description of the communities impacted by the actions contained in this document and potential socioeconomic impacts of those actions are contained in **Sections 3.0** and **4.0** of this document.

1.8 Executive Order 12962: Recreational Fisheries

E.O. 12962 requires federal agencies, in cooperation with states and tribes, to improve the quantity, function, sustainable productivity, and distribution of U.S. aquatic resources for increased recreational fishing opportunities through a variety of methods. Additionally, the Order establishes a seven-member National Recreational Fisheries Coordination Council responsible for, among other things, ensuring that social and economic values of healthy aquatic systems that support recreational fisheries are considered by federal agencies in the course of their actions, sharing the latest resource information and management technologies, and reducing duplicative and cost-inefficient programs among federal agencies involved in conserving or managing recreational fisheries. The National Recreational Fisheries Coordination Council also is responsible for developing, in cooperation with federal agencies, states and tribes, a Recreational Fishery Resource Conservation Plan - to include a five-year agenda. Finally, the Order requires NMFS and the U.S. Fish and Wildlife Service to develop a joint agency policy for administering the ESA.

The alternatives considered in this document are consistent with the directives of E.O. 12962.

1.9 Executive Order 13089: Coral Reef Protection

E.O. 13089, signed by President William Clinton on June 11, 1998, recognizes the ecological, social, and economic values provided by the Nation's coral reefs and ensures that Federal agencies are protecting these ecosystems. More specifically, the Order requires federal agencies to identify actions that may harm U.S. coral reef ecosystems, to utilize their program and authorities to protect and enhance the conditions of such ecosystems, and to ensure that their actions do not degrade the condition of the coral reef ecosystem.

The alternatives considered in this document are consistent with the directives of E.O. 13089.

1.10 Executive Order 13158: Marine Protected Areas (MPAs)

E.O. 13158 was signed on May 26, 2000, to strengthen the protection of U.S. ocean and coastal resources through the use of MPAs. The E.O. defined MPAs as "any area of the marine environment that has been reserved by federal, state, territorial, tribal, or local laws or regulations to provide lasting protection for part or all of the natural and cultural resources therein". It directs federal agencies to work closely with state, local and non- governmental partners to create a comprehensive network of MPAs "representing diverse U.S. marine ecosystems, and the Nation's natural and cultural resources".

The alternatives considered in this document are consistent with the directives of E.O. 13158.

1.11 Marine Mammal Protection Act (MMPA)

The MMPA established a moratorium, with certain exceptions, on the taking of marine mammals in U.S. waters and by U.S. citizens on the high seas. It also prohibits the importing of marine mammals and marine mammal products into the United States. Under the MMPA, the Secretary of Commerce (authority delegated to NMFS) is responsible for the conservation and management of cetaceans and pinnipeds (other than walruses). The Secretary of the Interior is responsible for walruses, sea otters, polar bears, manatees, and dugongs. Part of the responsibility that NMFS has under the MMPA involves monitoring populations of marine mammals to make sure that they stay at optimum levels. If a population falls below its optimum level, it is designated as "depleted". A conservation plan is then developed to guide research and management actions to restore the population to healthy levels.

In 1994, Congress amended the MMPA, to govern the taking of marine mammals incidental to commercial fishing operations. This amendment required the preparation of stock assessments for all marine mammal stocks in waters under U.S. jurisdiction; development and implementation of take-reduction plans for stocks that may be reduced or are being maintained below their optimum sustainable population levels due to interactions with commercial fisheries; and studies of pinniped-fishery interactions. The MMPA requires a commercial fishery to be placed in one of three categories, based on the relative frequency of incidental serious injuries and mortalities of marine mammals. Category I designates fisheries with frequent serious injuries and mortalities incidental to commercial fishing; Category II designates fisheries with occasional serious injuries and mortalities; and Category III designates fisheries with a remote likelihood or no known serious injuries or mortalities. Each year NMFS publishes a List of Fisheries (LOF) that lists a number of fisheries and the categories under which they fall.

Under the MMPA, to legally fish in a Category I and/or II fishery, a fisherman must take certain steps. For example, owners of vessels or gear engaging in a Category I or II fishery, are required to obtain a marine mammal authorization by registering with the Marine Mammal Authorization Program (50 CFR 229.4). They are also required to accommodate an observer if requested (50 CFR 229.7(c)) and they must comply with any applicable take reduction plans. The commercial hook-and-line components of the South Atlantic snapper grouper fishery (i.e., bottom longline, bandit gear, and handline), are listed as part of a Category III fishery (79 FR 14418; March 14, 2014) in the 2014 LOF because there have been no documented interactions between these gear and marine mammals. The black sea bass pot component of the South Atlantic snapper grouper fishery is part of the Atlantic mixed species trap/pot fishery, a Category II fishery, in the 2014 proposed LOF. The Atlantic mixed species trap/pot fishery designation was created in 2003 (68 FR 41725, July 15, 2003), by combining several separately listed trap/pot fisheries into a single group. This group was designated Category II as a precaution because of known interactions between marine mammals and gears similar to those included in this group. Prior to this consolidation, the black sea bass pot fishery in the South Atlantic was a part of the “U.S. Mid-Atlantic and Southeast U.S. Atlantic Black Sea Bass Trap/Pot” fishery (Category III). There has never been a documented interaction between marine mammals and black sea bass trap/pot gear in the South Atlantic. The actions in this EA are not expected to negatively impact the provisions of the MMPA.

1.12 National Environmental Policy Act (NEPA)

This document has been written and organized in a manner that meets NEPA requirements, and thus is a consolidated NEPA document, including an EA, as described in NOAA Administrative Order (NAO) 216- 6, Section 6.03.a.2.

Purpose and Need for Action

The purpose and need for this action are described in **Section 1.0**.

Alternatives

The alternatives for this action are described in **Section 2.0**.

Affected Environment

The affected environment is described in **Section 3.0**.

Impacts of the Alternatives

The impacts of the alternatives on the environment are described in **Section 4.0**.

1.13 National Marine Sanctuaries Act (NMSA)

Under the NMSA (also known as Title III of the Marine Protection, Research and Sanctuaries Act of 1972), as amended, the U.S. Secretary of Commerce is authorized to designate National Marine Sanctuaries to protect distinctive natural and cultural resources whose protection and beneficial use

requires comprehensive planning and management. The National Marine Sanctuary Program is administered by the Sanctuaries and Reserves Division of NOAA. The NMSA provides authority for comprehensive and coordinated conservation and management of these marine areas. The National Marine Sanctuary Program currently comprises 13 sanctuaries around the country, including sites in American Samoa and Hawaii. These sites include significant coral reef and kelp forest habitats, and breeding and feeding grounds of whales, sea lions, sharks, and sea turtles. The two main sanctuaries in the South Atlantic exclusive economic zone are Gray's Reef and Florida Keys National Marine Sanctuaries.

The alternatives considered in this document are not expected to have any adverse impacts on the resources managed by the Gray's Reef and Florida Keys National Marine Sanctuaries.

1.14 Paperwork Reduction Act (PRA)

The purpose of the PRA is to minimize the burden on the public. The PRA is intended to ensure that the information collected under the proposed action is needed and is collected in an efficient manner (44 U.S.C. 3501 (1)). The authority to manage information collection and record keeping requirements is vested with the Director of OMB. This authority encompasses establishment of guidelines and policies, approval of information collection requests, and reduction of paperwork burdens and duplications. The PRA requires NMFS to obtain approval from the OMB before requesting most types of fishery information from the public. Actions in this document are not expected to affect PRA.

1.15 Small Business Act (SBA)

Enacted in 1953, the SBA requires that agencies assist and protect small-business interests to the extent possible to preserve free competitive enterprise. The objectives of the SBA are to foster business ownership by individuals who are both socially and economically disadvantaged; and to promote the competitive viability of such firms by providing business development assistance including, but not limited to, management and technical assistance, access to capital and other forms of financial assistance, business training, and counseling, and access to sole source and limited competition federal contract opportunities, to help firms achieve competitive viability. Because most businesses associated with fishing are considered small businesses, NMFS, in implementing regulations, must make an assessment of how those regulations will affect small businesses.

1.16 Public Law 99-659: Vessel Safety

Public Law 99-659 amended the Magnuson-Stevens Fishery Conservation and Management Act to require that a FMP or FMP amendment must consider, and may provide for, temporary adjustments (after consultation with the U.S. Coast Guard and persons utilizing the fishery) regarding access to a fishery for vessels that would be otherwise prevented from participating in the fishery because of safety concerns related to weather or to other ocean conditions. No vessel would be forced to participate in South Atlantic fisheries under adverse weather or ocean conditions as a result of the imposition of management regulations proposed in this amendment. No concerns have been raised by South Atlantic fishermen or by the U.S. Coast Guard that the proposed management measures directly or indirectly pose a hazard to crew or vessel safety under adverse weather or ocean conditions.

References

NMFS (National Marine Fisheries Service). 2006. Endangered Species Act section 7 consultation on the Continued Authorization of Snapper grouper Fishing under the South Atlantic Snapper grouper Fishery Management Plan (RFFMP) and Proposed Amendment 13C. Biological Opinion. June 7.

Appendix D. History of Management

History of Management of the South Atlantic Snapper Grouper Fishery

The snapper grouper fishery is highly regulated; some of the species included in this amendment have been regulated since 1983. The following table summarizes actions in each of the amendments to the original FMP, as well as some events not covered in amendment actions.

Document	All Actions Effective By:	Proposed Rule Final Rule	Major Actions. Note that not all details are provided here. Please refer to Proposed and Final Rules for all impacts of listed documents.
FMP (1983)	08/31/83	PR: 48 FR 26843 FR: 48 FR 39463	-12" total length (TL) limit – red snapper, yellowtail snapper, red grouper, Nassau grouper -8" limit – black sea bass -4" trawl mesh size -Gear limitations – poisons, explosives, fish traps, trawls -Designated modified habitats or artificial reefs as Special Management Zones (SMZs)
Regulatory Amendment #1 (1987)	03/27/87	PR: 51 FR 43937 FR: 52 FR 9864	-Prohibited fishing in SMZs except with hand-held hook-and-line and spearfishing gear. -Prohibited harvest of goliath grouper in SMZs.
Amendment #1 (1988a)	01/12/89	PR: 53 FR 42985 FR: 54 FR 1720	-Prohibited trawl gear to harvest fish south of Cape Hatteras, NC and north of Cape Canaveral, FL. -Directed fishery defined as vessel with trawl gear and ≥200 lbs s-g on board. -Established rebuttable assumption that vessel with s-g on board had harvested such fish in the exclusive economic zone (EEZ).
Regulatory Amendment #2 (1988b)	03/30/89	PR: 53 FR 32412 FR: 54 FR 8342	-Established 2 artificial reefs off Ft. Pierce, FL as SMZs.
Notice of Control Date	09/24/90	55 FR 39039	-Anyone entering federal wreckfish fishery in the EEZ off S. Atlantic states after 09/24/90 was not assured of future access if limited entry program developed.
Regulatory Amendment #3 (1989)	11/02/90	PR: 55 FR 28066 FR: 55 FR 40394	-Established artificial reef at Key Biscayne, FL as SMZ. Fish trapping, bottom longlining, spear fishing, and harvesting of Goliath grouper prohibited in SMZ.
Amendment #2 (1990a)	10/30/90	PR: 55 FR 31406 FR: 55 FR 46213	-Prohibited harvest/possession of goliath grouper in or from the EEZ -Defined overfishing for goliath grouper and other species

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Emergency Rule	8/3/90	55 FR 32257	-Added wreckfish to the fishery management unit (FMU) -Fishing year beginning 4/16/90 -Commercial quota of 2 million pounds -Commercial trip limit of 10,000 pounds per trip
Fishery Closure Notice	8/8/90	55 FR 32635	- Fishery closed because the commercial quota of 2 million pounds was reached
Emergency Rule Extension	11/1/90	55 FR 40181	-extended the measures implemented via emergency rule on 8/3/90
Amendment #3 (1990b)	01/31/91	PR: 55 FR 39023 FR: 56 FR 2443	-Added wreckfish to the FMU -Defined optimum yield and overfishing -Required permit to fish for, land or sell wreckfish -Required catch and effort reports from selected, permitted vessel; -Established control date of 03/28/90 -Established a fishing year for wreckfish starting April 16 -Established a process to set annual quota, with initial quota of 2 million pounds; provisions for closure -Established 10,000 pound trip limit -Established a spawning season closure for wreckfish from January 15 to April 15 -Provided for annual adjustments of wreckfish management measures
Notice of Control Date	07/30/91	56 FR 36052	-Anyone entering federal snapper grouper fishery (other than for wreckfish) in the EEZ off S. Atlantic states after 07/30/91 was not assured of future access if limited entry program developed.

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Amendment #4 (1991)	01/01/92	PR: 56 FR 29922 FR: 56 FR 56016	<ul style="list-style-type: none"> -Prohibited gear: fish traps except black sea bass traps north of Cape Canaveral, FL; entanglement nets; longline gear inside 50 fathoms; bottom longlines to harvest wreckfish; powerheads and bangsticks in designated SMZs off S. Carolina -defined overfishing/overfished and established rebuilding timeframe: red snapper and groupers ≤ 15 years (year 1 = 1991); other snappers, greater amberjack, black sea bass, red porgy ≤ 10 years (year 1 = 1991) -Required permits (commercial & for-hire) and specified data collection regulations -Established an assessment group and annual adjustment procedure (framework) -Permit, gear, and vessel id requirements specified for black sea bass traps -No retention of snapper grouper spp. caught in other fisheries with gear prohibited in snapper grouper fishery if captured snapper grouper had no bag limit or harvest was prohibited. If had a bag limit, could retain only the bag limit -8" TL limit – lane snapper -10" TL limit – vermilion snapper (recreational only) -12" TL limit – red porgy, vermilion snapper (commercial only), gray, yellowtail, mutton, schoolmaster, queen, blackfin, cubera, dog, mahogany, and silk snappers -20" TL limit – red snapper, gag, and red, black, scamp, yellowfin, and yellowmouth groupers. -28" fork length (FL) limit – greater amberjack (recreational only) -36" FL or 28" core length – greater amberjack (commercial only) -bag limits – 10 vermilion snapper, 3 greater amberjack -aggregate snapper bag limit – 10/person/day, excluding vermilion snapper and allowing no more than 2 red snappers -aggregate grouper bag limit – 5/person/day, excluding Nassau and goliath grouper, for which no retention (recreational & commercial) is allowed -spawning season closure – commercial harvest greater amberjack > 3 fish bag prohibited in April south of Cape Canaveral, FL -spawning season closure – commercial harvest mutton snapper > snapper aggregate prohibited during May and June -charter/headboats and excursion boat possession limits extended

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Amendment #5 (1992a)	04/06/92	PR: 56 FR 57302 FR: 57 FR 7886	-Wreckfish: established limited entry system with individual transferable quotas (ITQs); required dealer to have permit; rescinded 10,000 lb. trip limit; required off-loading between 8 am and 5 pm; reduced occasions when 24-hour advance notice of offloading required for off-loading; established procedure for initial distribution of percentage shares of total allowable catch (TAC)
Emergency Rule	8/31/92	57 FR 39365	-Black Sea Bass (bsb): modified definition of bsb pot; allowed multi-gear trips for bsb; allowed retention of incidentally-caught fish on bsb trips
Emergency Rule Extension	11/30/92	57 FR 56522	-Black Sea Bass: modified definition of bsb pot; allowed multi-gear trips for bsb; allowed retention of incidentally-caught fish on bsb trips
Regulatory Amendment #4 (1992b)	07/06/93	FR: 58 FR 36155	-Black Sea Bass: modified definition of bsb pot; allowed multi-gear trips for bsb; allowed retention of incidentally-caught fish on bsb trips
Regulatory Amendment #5 (1992c)	07/31/93	PR: 58 FR 13732 FR: 58 FR 35895	-Established 8 SMZs off S. Carolina, where only hand-held, hook-and-line gear and spearfishing (excluding powerheads) was allowed
Amendment #6 (1993)	07/27/94	PR: 59 FR 9721 FR: 59 FR 27242	-Set up separate commercial TAC levels for golden tilefish and snowy grouper -Established commercial trip limits for snowy grouper, golden tilefish, speckled hind, and warsaw grouper -Included golden tilefish in grouper recreational aggregate bag limits -Prohibited sale of warsaw grouper and speckled hind -100% logbook coverage upon renewal of permit -Creation of the <i>Oculina</i> Experimental Closed Area -Data collection needs specified for evaluation of possible future individual fishing quota system
Amendment #7 (1994a)	01/23/95	PR: 59 FR 47833 FR: 59 FR 66270	-12" FL – hogfish -16" TL – mutton snapper -Required dealer, charter and headboat federal permits -Allowed sale under specified conditions -Specified allowable gear and made allowance for experimental gear -Allowed multi-gear trips in NC -Added localized overfishing to list of problems and objectives -Adjusted bag limit and crew specs. for charter and head boats -Modified management unit for scup to apply south of Cape Hatteras, NC -Modified framework procedure
Regulatory Amendment #6 (1994b)	05/22/95	PR: 60 FR 8620 FR: 60 FR 19683	-Established actions which applied only to EEZ off Atlantic coast of FL: Bag limits – 5 hogfish/person/day (recreational only), 2 cubera snapper/person/day > 30" TL; 12" TL – gray triggerfish
Notice of Control Date	04/23/97	62 FR 22995	-Anyone entering federal bsb pot fishery off S. Atlantic states after 04/23/97 was not assured of future access if limited entry program developed

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Amendment #8 (1997)	12/14/98	PR: 63 FR 1813 FR: 63 FR 38298	<ul style="list-style-type: none"> -Established program to limit initial eligibility for snapper grouper fishery: Must demonstrate landings of any species in the snapper grouper (SG) FMU in 1993, 1994, 1995 or 1996; and have held valid SG permit between 02/11/96 and 02/11/97 -Granted transferable permit with unlimited landings if vessel landed \geq 1,000 pounds (lbs) of snapper grouper species in any of the years -Granted non-transferable permit with 225 lb trip limit to all other vessels -Modified problems, objectives, optimum yield (OY), and overfishing definitions -Expanded Council's habitat responsibility -Allowed retention of snapper grouper species in excess of bag limit on permitted vessel with a single bait net or cast nets on board -Allowed permitted vessels to possess filleted fish harvested in the Bahamas under certain conditions.
Regulatory Amendment #7 (1998a)	01/29/99	PR: 63 FR 43656 FR: 63 FR 71793	-Established 10 SMZs at artificial reefs off South Carolina.
Interim Rule Request	1/16/98		-Council requested all Amendment 9 measures except black sea bass pot construction changes be implemented as an interim request under the Magnuson-Stevens Act
Action Suspended	5/14/98		-NMFS informed the Council that action on the interim rule request was suspended
Emergency Rule Request	9/24/98		-Council requested Amendment 9 be implemented via emergency rule
Request not Implemented	1/22/99		-NMFS informed the Council that the final rule for Amendment 9 would be effective 2/24/99; therefore they did not implement the emergency rule

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Amendment #9 (1998b)	2/24/99	PR: 63 FR 63276 FR: 64 FR 3624	<p>-<u>Red porgy</u>: 14" TL (recreational and commercial); 5 fish rec. bag limit; no harvest or possession > bag limit, and no purchase or sale, in March and April</p> <p>-<u>Black sea bass</u>: 10" TL (recreational and commercial); 20 fish rec. bag limit; required escape vents and escape panels with degradable fasteners in bsb pots</p> <p>-<u>Greater amberjack</u>: 1 fish rec. bag limit; no harvest or possession > bag limit, and no purchase or sale, during April; quota = 1,169,931 lbs; began fishing year May 1; prohibited coring</p> <p>-Specified size limits for several snapper grouper species (indicated in parentheses in inches TL): including yellowtail snapper (12), mutton snapper (16), red snapper (20); red grouper, yellowfin grouper, yellowmouth grouper, and scamp (20)</p> <p>-<u>Vermilion snapper</u>: 11" TL (recreational), 12" TL commercial</p> <p>-<u>Gag</u>: 24" TL (recreational); no commercial harvest or possession > bag limit, and no purchase or sale, during March and April</p> <p>-<u>Black grouper</u>: 24" TL (recreational and commercial); no harvest or possession > bag limit, and no purchase or sale, during March and April</p> <p>-<u>Gag and Black grouper</u>: within 5 fish aggregate grouper bag limit, no more than 2 fish may be gag or black grouper (individually or in combination)</p> <p>-<u>All snapper grouper without a bag limit</u>: aggregate recreational bag limit 20 fish/person/day, excluding tomtate and blue runner</p> <p>-<u>Vessels with longline gear</u> aboard may only possess snowy, warsaw, yellowedge, and misty grouper, and golden, blueline and sand tilefish</p>
Amendment #9 (1998b) resubmitted	10/13/00	PR: 63 FR 63276 FR: 65 FR 55203	-Commercial trip limit for greater amberjack
Emergency Interim Rule	09/08/99, expired 08/28/00	64 FR 48324 and 65 FR 10040	-Prohibited harvest or possession of red porgy
Emergency Action	9/3/99	64 FR 48326	-Reopened the Amendment 8 permit application process
Amendment #10 (1998c)	07/14/00	PR: 64 FR 37082 and 64 FR 59152 FR: 65 FR 37292	-Identified essential fish habitat (EFH) and established habitat areas of particular concern (HAPC) for species in the snapper grouper FMU

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Amendment #11 (1998d)	12/02/99	PR: 64 FR 27952 FR: 64 FR 59126	<p>-Maximum sustainable yield (MSY) proxy: goliath and Nassau grouper = 40% static spawning potential ratio (SPR); all other species = 30% static SPR</p> <p>-OY: hermaphroditic groupers = 45% static SPR; goliath and Nassau grouper = 50% static SPR; all other species = 40% static SPR</p> <p>-Overfished/overfishing evaluations: BSB: overfished (minimum stock size threshold (MSST)=3.72 mp, 1995 biomass=1.33 mp); undergoing overfishing (maximum fishing mortality threshold (MFMT)=0.72, F1991-1995=0.95) Vermilion snapper: overfished (static SPR = 21-27%). Red porgy: overfished (static SPR = 14-19%). Red snapper: overfished (static SPR = 24-32%) Gag: overfished (static SPR = 27%) Scamp: no longer overfished (static SPR = 35%) Speckled hind: overfished (static SPR = 8-13%) Warsaw grouper: overfished (static SPR = 6-14%) Snowy grouper: overfished (static SPR = 5-15%) White grunt: no longer overfished (static SPR = 29-39%) Golden tilefish: overfished (couldn't estimate static SPR) Nassau grouper: overfished (couldn't estimate static SPR) Goliath grouper: overfished (couldn't estimate static SPR)</p> <p>-overfishing level: goliath and Nassau grouper = $F > F_{40\%}$ static SPR; all other species: = $F > F_{30\%}$ static SPR</p> <p>Approved definitions for overfished and overfishing. $MSST = [(1-M) \text{ or } 0.5 \text{ whichever is greater}] * B_{MSY}$. $MFMT = F_{MSY}$</p>
Regulatory Amendment #8 (2000a)	11/15/00	PR: 65 FR 41041 FR: 65 FR 61114	-Established 12 SMZs at artificial reefs off Georgia; revised boundaries of 7 existing SMZs off Georgia to meet CG permit specs; restricted fishing in new and revised SMZs
Amendment #12 (2000b)	09/22/00	PR: 65 FR 35877 FR: 65 FR 51248	-Red porgy: $MSY=4.38$ mp; $OY=45\%$ static SPR; $MFMT=0.43$; $MSST=7.34$ mp; rebuilding timeframe=18 years (1999=year 1); no sale of red porgy during Jan-April; 1 fish bag limit; 50 lb. bycatch comm. trip limit May-December; modified management options and list of possible framework actions
Amendment #13A (2003)	04/26/04	PR: 68 FR 66069 FR: 69 FR 15731	-Extended for an indefinite period the regulation prohibiting fishing for and possessing snapper grouper spp. within the <i>Oculina</i> Experimental Closed Area
Notice of Control Date	10/14/05	70 FR 60058	-The Council is considering management measures to further limit participation or effort in the commercial fishery for snapper grouper species (excluding wreckfish)
Amendment #13C (2006)	10/23/06	PR: 71 FR 28841 FR: 71 FR 55096	<p>- End overfishing of snowy grouper, vermilion snapper, black sea bass, and golden tilefish. Increase allowable catch of red porgy. Year 1 = 2006.</p> <p>1. Snowy Grouper Commercial: Quota = 151,000 lbs</p>

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			<p>gutted weight (gw) in year 1, 118,000 lbs gw in year 2, and 84,000 lbs gw in year 3 onwards. Trip limit = 275 lbs gw in year 1, 175 lbs gw in year 2, and 100 lbs gw in year 3 onwards</p> <p>Recreational: Limit possession to one snowy grouper in 5 grouper per person/day aggregate bag limit.</p> <p>2. Golden Tilefish Commercial: Quota of 295,000 lbs gw, 4,000 lbs gw trip limit until 75% of the quota is taken when the trip limit is reduced to 300 lbs gw. Do not adjust the trip limit downwards unless 75% is captured on or before September 1.</p> <p>Recreational: Limit possession to 1 golden tilefish in 5 grouper per person/day aggregate bag limit.</p> <p>3. Vermilion Snapper Commercial: Quota of 1,100,000 lbs gw.</p> <p>Recreational: 12" TL size limit.</p> <p>4. Black Sea Bass Commercial: Commercial quota of 477,000 lbs gw in year 1, 423,000 lbs gw in year 2, and 309,000 lbs gw in year 3 onwards. Require use of at least 2" mesh for the entire back panel of black sea bass pots effective 6 months after publication of the final rule. Require black sea bass pots be removed from the water when the quota is met. Change fishing year from calendar year to June 1 – May 31.</p> <p>Recreational: Recreational allocation of 633,000 lbs gw in year 1, 560,000 lbs gw in year 2, and 409,000 lbs gw in year 3 onwards. Increase minimum size limit from 10" to 11" in year 1 and to 12" in year 2. Reduce recreational bag limit from 20 to 15 per person per day. Change fishing year from the calendar year to June 1 through May 31.</p> <p>5. Red Porgy Commercial and recreational:</p> <ol style="list-style-type: none"> 1. Retain 14" TL size limit and seasonal closure (retention limited to the bag limit); 2. Specify a commercial quota of 127,000 lbs gw and prohibit sale/purchase and prohibit harvest and/or possession beyond the bag limit when quota is taken and/or during January through April; 3. Increase commercial trip limit from 50 lbs ww to 120 red porgy (210 lbs gw) during May through December; 4. Increase recreational bag limit from one to three red porgy per person per day.
Notice of Control Date	3/8/07	72 FR 60794	-The Council may consider measures to limit participation in the snapper grouper for-hire sector
Amendment #14 (2007)	2/12/09	PR: 73 FR 32281 FR: 74 FR 1621	-Establish eight deepwater Type II marine protected areas (MPAs) to protect a portion of the population and habitat of long-lived deepwater snapper grouper species
Amendment #15A (2008a)	3/14/08	73 FR 14942	- Establish rebuilding plans and status determination criteria for snowy grouper, black sea bass, and red porgy
Amendment #15B (2008b)	2/15/10	PR: 74 FR 30569 FR: 74 FR 58902	<p>-Prohibit the sale of bag-limit caught snapper grouper species</p> <p>-Reduce the effects of incidental hooking on sea turtles</p>

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			and smalltooth sawfish -Adjust commercial renewal periods and transferability requirements -Implement plan to monitor and assess bycatch -Establish reference points for golden tilefish -Establish allocations for snowy grouper (95% com & 5% rec) and red porgy (50% com & 50% rec)
Amendment #16 (SAFMC 2009a)	7/29/09	PR: 74 FR 6297 FR: 74 FR 30964	-Specify status determination criteria for gag and vermillion snapper -For gag: Specify interim allocations 51% com & 49% rec; rec & com shallow water grouper spawning closure January through April; directed com quota= 352,940 lbs gw; -reduce 5-fish aggregate grouper bag limit, including tilefish species, to a 3-fish aggregate -Captain and crew on for-hire trips cannot retain the bag limit of vermillion snapper and species within the 3-fish grouper aggregate -For vermillion snapper: Specify interim allocations 68% com & 32% rec; directed com quota split Jan-June=315,523 lbs gw and 302,523 lbs gw July-Dec; reduce bag limit from 10 to 5 and a rec closed season November through March -Require dehooking tools
Amendment #19 (Comprehensive Ecosystem-Based Amendment 1; SAFMC 2009b)	7/22/10	PR: 75 FR 14548 FR: 75 FR 35330	-Provide presentation of spatial information for EFH and EFH-HAPC designations under the Snapper Grouper FMP - Designation of deepwater coral HAPCs
Amendment #17A (SAFMC 2010a)	12/3/10 red snapper closure; circle hooks March 3, 2011	PR: 75 FR 49447 FR: 75 FR 76874	-Required use of non-stainless steel circle hooks when fishing for snapper grouper species with hook-and-line gear north of 28 deg. N latitude in the South Atlantic EEZ -Specify an ACL and an AM for red snapper with management measures to reduce the probability that catches will exceed the stocks' ACL -Specify a rebuilding plan for red snapper -Specify status determination criteria for red snapper -Specify a monitoring program for red snapper
Emergency Rule	12/3/10	75 FR 76890	- Delay the effective date of the area closure for snapper grouper species implemented through Amendment 17A
Amendment #17B (SAFMC 2010b)	January 31, 2011	PR: 75 FR 62488 FR: 75 FR 82280	-Specify ACLs, ACTs, and AMs, where necessary, for 9 species undergoing overfishing -Modify management measures as needed to limit harvest to the ACL or ACT -Update the framework procedure for specification of total allowable catch -Prohibited harvest of 6 deepwater species seaward of 240 feet to curb bycatch of speckled hind and warsaw grouper

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Notice of Control Date	12/4/08	74 FR 7849	-Establishes a control date for the golden tilefish portion of the snapper grouper fishery in the South Atlantic
Notice of Control Date	12/4/08	74 FR 7849	-Establishes control date for black sea bass pot sector in the South Atlantic
Regulatory Amendment #10 (SAFMC 2010c)	5/31/11	PR: 76 FR 9530 FR: 76 FR 23728	-Eliminate closed area for snapper grouper species approved in Amendment 17A
Regulatory Amendment #9 (SAFMC 2011a)	Bag limit: 6/22/11 Trip limits: 7/15/11	PR: 76 FR 23930 FR: 76 FR 34892	- Establish trip limits for vermilion snapper and gag, increase trip limit for greater amberjack, and reduce bag limit for black sea bass
Regulatory Amendment #11 (2011b)	5/10/12	PR: 76 FR 78879 FR: 77 FR 27374	- Eliminate 240 ft harvest prohibition for six deepwater species
Amendment # 25 (Comprehensive ACL Amendment) (SAFMC 2011c)	4/16/12	PR: 76 FR 74757 Amended PR: 76 FR 82264 FR: 77 FR 15916	-Establish acceptable biological catch (ABC) control rules, establish ABCs, annual catch limits (ACLs), and accountability measures (AMs) for species not undergoing overfishing -Remove some species from South Atlantic FMU and designate others as ecosystem component species -Specify allocations between the commercial and, recreational sectors for species not undergoing overfishing -Limit the total mortality for federally managed species in the South Atlantic to the ACLs
Amendment #24 (SAFMC 2011d)	7/11/12	PR: 77 FR 19169 FR: 77 FR 34254	-Specify MSY, rebuilding plan (including ACLs, AMs, and OY), and allocations for red grouper
Amendment #23 (Comprehensive Ecosystem-based Amendment 2; SAFMC 2011e)	1/30/12	PR: 76 FR 69230 FR: 76 FR 82183	- Designate the Deepwater MPAs as EFH-HAPCs - Limit harvest of snapper grouper species in SC SMZs to the bag limit - Modify sea turtle release gear
Amendment #18A (SAFMC 2012a)	7/1/12	PR: 77 FR 16991 FR: 77FR3 2408	- Limit participation and effort in the black sea bass sector - Modifications to management of the black sea bass pot sector - Improve the accuracy, timing, and quantity of fisheries statistics
Amendment #20A (SAFMC 2012b)	10/26/12	PR: 77 FR 19165 FR: 77 FR 59129	-Redistribute latent shares for the wreckfish ITQ program.

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Regulatory Amendment #12 (SAFMC 2012c)	10/9/12	FR: 77 FR 61295	-Adjust the ACL and OY for golden tilefish -Consider specifying a commercial Annual Catch Target (ACT) -Revise recreational AMs for golden tilefish
Amendment #18B (SAFMC 2013a)	5/23/13	PR: 77 FR 75093 FR: 77 FR 23858	-Limit participation and effort in the golden tilefish commercial sector through establishment of a longline endorsement -Modify trip limits -Specify allocations for gear groups (longline and hook and line)
Regulatory Amendment #13 (SAFMC 2013b)	7/17/13	PR: 78 FR 17336 FR: 78 FR 36113	-Revise the ABCs, ACLs (including sector ACLs), and ACTs implemented by the Comprehensive ACL Amendment (SAFMC 2011c). The revisions may prevent a disjunction between the established ACLs and the landings used to determine if AMs are triggered.
Regulatory Amendment #15 (SAFMC 2013c)	9/12/13	PR: 78 FR 31511 FR: 78 FR 49183	-Modify the existing specification of OY and ACL for yellowtail snapper in the South Atlantic -Modify the existing gag commercial ACL and AM for gag that requires a closure of all other shallow water groupers (black grouper, red grouper, scamp, red hind, rock hind, graysby, coney, yellowmouth grouper, and yellowfin grouper) in the South Atlantic when the gag commercial ACL is met or projected to be met
Amendment #28 (SAFMC 2013d)	8/23/13	PR: 78 FR 25047 FR: 78 FR 44461	-Establish regulations to allow harvest of red snapper in the South Atlantic
Regulatory Amendment #18 (SAFMC 2013e)	9/5/13	PR: 78 FR 26740 FR: 78 FR 47574	-Adjust ACLs for vermilion snapper and red porgy, and remove the 4-month recreational closure for vermilion snapper
Regulatory Amendment #19 (SAFMC 2013f)	ACL: 9/23/13 Pot closure: 10/23/13	PR: 78 FR 39700 FR: 78 FR 58249	-Adjust the ACL for black sea bass and implement an annual closure on the use of black sea bass pots from November 1 to April 30
Amendment #27 (SAFMC 2013g)	1/27/14	FR: 78 FR 78770	-Establish the South Atlantic Council as the responsible entity for managing Nassau grouper throughout its range including federal waters of the Gulf of Mexico -Modify the crew member limit on dual-permitted snapper grouper vessels -Modify the restriction on retention of bag limit quantities of some snapper grouper species by captain and crew of for-hire vessels -Minimize regulatory delay when adjustments to snapper

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			grouper species' ABC, ACLs, and ACTs are needed as a result of new stock assessments -Address harvest of blue runner by commercial fishermen who do not possess a South Atlantic Snapper Grouper Permit
Amendment #20B	TBD	TBD	-Update wreckfish ITQ according to reauthorized Magnuson-Stevens Act
Regulatory Amendment #14 (SAFMC 2014a)	12/8/14	PR: 79 FR 22936 FR: 79 FR 66316	-Modify the fishing year for greater amberjack -Modify the fishing year for black sea bass -Revise the AMs for vermilion snapper and black sea bass -Modify the trip limit for gag
Amendment # 26 (Comprehensive Ecosystem-Based Amendment 3)	TBD	TBD	-Modify bycatch and discard reporting for commercial and for-hire vessels
Regulatory Amendment #16	TBD	TBD	-Consider removal of the November-April prohibition on the use of black sea bass pots
Regulatory Amendment #21 (SAFMC 2014b)	11/6/14	FR: 79 FR 60379	-Change the definition of MSST for species with low natural mortality (red snapper, blueline tilefish, gag, black grouper, yellowtail snapper, vermilion snapper, red porgy, and greater amberjack).
Amendment #36	TBD	TBD	-Establish special management zones to enhance protection for snapper grouper species in spawning condition including speckled hind and warsaw grouper
Amendment #22	TBD	TBD	-Establish a recreational tagging program for snapper grouper species with small ACLs
Amendment #32	TBD	TBD	-Adjust management measures and ACLs for blueline tilefish
Amendment # 29 (SAFMC 2014c)	TBD	TBD	-Update the ABC Control Rule; update ABC/ACL/OY for select unassessed snapper grouper species; and revise commercial and recreational management measures for gray triggerfish.

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Regulatory Amendment #20 (SAFMC 2014d)	TBD	TBD	-Adjust management measures and ACLs for snowy grouper
Regulatory Amendment #22	TBD	TBD	-Adjust management measures and ACLs for gag and wreckfish
Amendment #35	TBD	TBD	-Remove four species from the Snapper Grouper FMP and address golden tilefish longline endorsement issue.

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Appendix E. Bycatch Practicability Analysis (BPA)

1.1 Population Effects for the Bycatch Species

Background

Bycatch is defined as fish harvested in a fishery, but not sold or retained for personal use. This definition includes both economic and regulatory discards and excludes fish released alive under a recreational catch-and-release fishery management program. Economic discards are generally undesirable from a market perspective because of their species, size, sex, and/or other characteristics. Regulatory discards are fish required by regulation to be discarded, but also include fish that may be retained but not sold.

Regulatory Amendment 22 to the Fishery Management Plan (FMP) for the Snapper Grouper Fishery of the South Atlantic Region (Regulatory Amendment 22) considers revising the annual catch limits (ACLs) and optimum yield (OY) for gag and wreckfish, and to assess the need to modify the recreational bag limit for gag within the aggregate bag limit. There are 59 species in the snapper grouper fishery management unit (FMU), many of which co-exist with each other, and are encountered by fishers.

Most of the species in the snapper grouper FMU, including gag and wreckfish, are taken with hook-and-line gear (see **Chapter 3**) by both the commercial and recreational sectors. An update to the Southeast Data Assessment and Review (SEDAR) 10 (2006) gag stock assessment conducted in 2014 (SEDAR 10 Update 2014) demonstrated that commercial fleets for gag are predominately handline and diving (spear fishing), and smaller contributors included longline (typically less than 1% of the combined total with the handline fleet). Fishing for wreckfish occurs at water depths of 450-600 m. Vertical hook-and-line gear consisting of 1/8 inch cable and a terminal rig (around 23 kg of weight), with 8-12 hooks baited with squid, is deployed from hydraulic reels to target wreckfish. Because of the small number of participants in the wreckfish portion of the snapper grouper fishery, most years of landings data are confidential.

Recently Implemented and in-Progress Amendments

This BPA includes landings and discard information for gag and species in the snapper grouper FMU, which co-occur with gag (**Table E-1**). Landings for wreckfish are confidential. The most commonly co-occurring species with wreckfish are barrelfish and red bream, which are not subject to federal management. Actions and alternatives in Regulatory Amendment 22 for gag and wreckfish are closely associated with those in other amendments that have recently been implemented or could be implemented by the end of 2015-2016, and are briefly discussed below. For more details on the history of management for species in the Snapper Grouper FMP, including changes in size limits, trip limits, seasonal closures, etc., refer to **Appendix D**.

Amendment 17B to the FMP for the Snapper Grouper Fishery of the South Atlantic Region (Snapper Grouper FMP) (SAFMC 2010), which was effective on January 30, 2011, established accountability measures (AM) and ACLs were established for gag. The Comprehensive ACL

Amendment (SAFMC 2011a), which was effective on April 16, 2012, established ACLs and AMs for wreckfish.

Amendment 20A to the Snapper Grouper FMP (SAFMC 2011b) defined and reverted inactive wreckfish shares within the individual transferable quota program, redistributed reverted shares to active shareholders, established a share cap, and implemented an appeals process. The final rule was effective on October 26, 2012.

Regulatory Amendment 15 to the Snapper Grouper FMP (SAFMC 2013a) modified the commercial accountability measure (AM) for gag so that only the commercial sector for gag closes when the gag commercial ACL is met or projected to be met. The ACLs and AMs for all other shallow water grouper species remained unchanged. Regulatory Amendment 15 (SAFMC 2013a) also reduced the gag commercial ACL to account for projected gag discard mortality from commercial trips that target co-occurring species (i.e., red grouper and scamp) after the gag commercial ACL is met and harvest is prohibited. The final rule for Regulatory Amendment 15 published in the *Federal Register* on August 13, 2013 (78 FR 49183), with an effective date of September 12, 2013.

The Joint South Atlantic/Gulf of Mexico Generic Headboat Reporting Amendment (Includes Amendment 31 to the Snapper Grouper FMP) (SAFMC 2013b) required that all federally-permitted headboats on the South Atlantic report their landings information electronically, and on a weekly basis in order to improve the timeliness and accuracy of harvest data. The proposed rule for the species managed by the South Atlantic Council published in the *Federal Register* on September 27, 2013 (79 FR 59641). The final rule published on December 27, 2013 (79 FR 78779), and regulations became effective on January 27, 2014.

The Joint South Atlantic/Gulf of Mexico Generic Dealer Reporting Amendment (SAFMC and GMFMC 2013c), in part, created one dealer permit for all federally-permitted dealers in the southeast region and required dealers to report landings electronically each week. Requiring dealers to report landings data electronically each week is expected to improve in-season quota monitoring efforts, which will increase the likelihood that AMs could be more effectively implemented prior to ACLs being exceeded. The notice of availability of the amendment and the proposed rule published on December 19, 2013, and January 2, 2014, respectively. The final rule published in the *Federal Register* on April 9, 2014 (79 FR 19490) and was effective on August 7, 2014.

The South Atlantic Fishery Management Council (South Atlantic Council) requested development of Regulatory Amendment 14 to the Snapper Grouper FMP (SAFMC 2013d) at their September 2013 meeting. Options included in Regulatory Amendment 14 included modifications of the gag trip limit. The South Atlantic Council approved Regulatory Amendment 14 at their September 2013 meeting. The proposed rule was published in the *Federal Register* on April 25, 2014, with a comment period ending May 27, 2014 (79 FR 22936). The final rule published on November 7, 2014 with an effective date on December 8, 2014 (79 FR 66319).

Regulatory Amendment 21 to the Snapper Grouper FMP (SAFMC 2014) modified the definition of the overfished threshold for red snapper, blueline tilefish, gag, black grouper, yellowtail snapper, vermilion snapper, red porgy, and greater amberjack. The purpose of Regulatory Amendment 21 was to prevent snapper grouper stocks with low natural mortality rates from frequently alternating between overfished and rebuilt conditions due to natural variation in recruitment and other environmental factors. The proposed rule published on August 1, 2014, and the comment period ended on September 3, 2014. The final rule for Regulatory Amendment 21 published in the *Federal Register* on October 7, 2014 (79 FR 60379), with an effective date of November 6, 2014.

The Joint Commercial Logbook Reporting Amendment (under development) would require electronic reporting of landings information by federally-permitted commercial vessels, which would increase the timeliness and accuracy of landings data.

The Joint Charter Boat Reporting Amendment (under development) would require charter vessels to regularly report their landings information electronically each week. Including charter boats in the recreational harvest reporting system would further improve the agency's ability to monitor recreational catch rates in-season.

At their June 2012 meeting, the South Atlantic Council further discussed Amendment 22 to the Snapper Grouper FMP to consider measures such as a tag program to allow harvest of red snapper as the stock rebuilds. Scoping of Amendment 22 was conducted during January and February 2011. At their September 2012 meeting, the South Atlantic Council stated their intent to further develop Amendment 22 in 2013 focusing on a recreational tag program for red snapper, golden tilefish, snowy grouper, and wreckfish. In June 2013, the South Atlantic Council changed the focus of Amendment 22 to a recreational tag program to monitor harvest of species with small ACLs. The amendment will be discussed at the March 2015 South Atlantic Council meeting.

The South Atlantic Council initiated development of the Comprehensive AM and Dolphin Allocation Amendment at their September 2013 meeting. In December 2013, the South Atlantic Council changed the range of actions to only include AMs for snapper grouper species and golden crab, and sector allocations for dolphin. The South Atlantic Council reviewed drafts of the amendment at the December 2013, March 2014, June 2014, and September 2014 meetings. Public hearings took place in August 2014, and the South Atlantic Council took final action to approve the amendment for formal review in December 2014.

Amendment 26 (Comprehensive Ecosystem-Based Amendment 3) to the Snapper grouper FMP is proposing changes to the bycatch data collection programs in all the fisheries in the South Atlantic.

During 2009-2013, total commercial landings for gag were higher than the recreational sector (private and for-hire (charterboat/headboat) categories combined)). The number of gag discarded was much higher for the recreational sector than the commercial sector (**Table E-1**).

Commercial Sector

For gag in Regulatory Amendment 22, the average commercial landings in pounds whole weight (lbs ww) during 2009-2013 was 471,689 lbs (**Table E-1**). The average number of commercial discards (numbers of fish, N) during 2009-2013 was 7,004 (**Table E-1**). A weighted mean cluster association index matrix used to determine the top five most associated species with each managed species in the South Atlantic showed that gag are most associated with red grouper, red snapper, gray triggerfish, white grunt, red porgy, scamp, specked hind, and vermilion snapper. **Table E-1** shows landings for gag, the species most commonly taken with gag, and other shallow water grouper species. Commercial landings were highest for vermilion snapper, gray triggerfish, red grouper, scamp, red porgy, and white grunt (**Table E-1**).

Wreckfish landings are available from 1988-1990 (by calendar year) from the National Marine Fisheries Service (NMFS) general canvas files and by fishing year from 1991/1992 through 2012/2013 from fishermen logbooks. Landings for 2001/2002 through 2008/2009 are confidential because there were fewer than three vessels that fished wreckfish during those years and/or fewer than three dealers purchased wreckfish in those years. See Amendment 20A to the Snapper Grouper FMP (SAFMC 2011b) for more details on historical landings.

Currently, discard data are collected using a supplemental form that is sent to a 20% stratified random sample of the active permit holders in the snapper grouper fishery. However, in the absence of any observer data, there are concerns about the accuracy of logbook data in collecting bycatch information. Biases associated with logbooks primarily result from inaccuracy in reporting of species that are caught in large numbers or are of little economic interest (particularly of bycatch species), and from low compliance rates. Actions that could help resolve some of these issues are currently being considered by the South Atlantic Council and the Gulf of Mexico Fishery Management Council (Gulf of Mexico Council), which would allow for commercial logbook data (including discard information) to be entered electronically.

Release mortality estimates for the commercial sector compiled from the most recent stock assessments (as available) using Southeast Fishery Science Center's (SEFSC) SEDAR process were 40% for gag (SEDAR 10 Update 2014). Fishing for wreckfish occurs at water depths of 450-600 m, and release mortality is assumed to be 100% for wreckfish due to the depth of capture. See the "Finfish Bycatch Mortality" and "Practicability of Management Measures in Directed Fisheries Relative to their Impact on Bycatch and Bycatch Mortality" sections of this BPA for more details.

Recreational Sector

For the recreational sector during 2009-2013, estimates of the number of recreational discards were available from Marine Recreational Fisheries Statistical Survey (MRFSS) and the NMFS Southeast Headboat Survey. The MRFSS system classified recreational catch into three categories:

- Type A - Fishes that were caught, landed whole, and available for identification and enumeration by the interviewers.

- Type B - Fishes that were caught but were either not kept or not available for identification:
 - Type B1 - Fishes that were caught and filleted, released dead, given away, or disposed of in some way other than Types A or B2.
 - Type B2 - Fishes that were caught and released alive.

Recent improvements have been made to the MRFSS program, and the program is now called the Marine Recreational Information Program (MRIP). Beginning in 2013, samples were drawn from a known universe of fishermen rather than randomly dialing coastal households. Other improvements have been and will be made that should result in better estimating recreational catches and the variances around those catch estimates. MRIP methods have been used to recalculate previous MRFSS estimates dating back to 1986.

During 2009-2013, information for charter trips came from two sources. Charter vessels for the snapper grouper fishery were selected to report by the Science and Research Director (SRD) to maintain a fishing record for each trip, or a portion of such trips as specified by the SRD, and on forms provided by the SRD. Harvest and bycatch information was monitored by MRFSS/MRIP. Since 2000, a 10% sample of charter vessel captains were called weekly to obtain trip level information, such as date, fishing location, target species, etc. In addition, the standard dockside intercept data were collected from charter vessels and charter vessel clients were sampled through the standard random digital dialing of coastal households. Precision of charter vessel effort estimates has improved by more than 50% due to these changes (Van Voorhees et al. 2000).

Harvest from headboats was monitored by NMFS-SEFSC Beaufort Laboratory. Collection of discard data began in 2004. Daily catch records (trip records) were filled out by the headboat operators, or in some cases by NMFS approved headboat samplers based on personal communication with the captain or crew. Headboat trips were subsampled for data on species lengths and weights. Biological samples (scales, otoliths, spines, reproductive tissues, and stomachs) were obtained as time allowed. Lengths of discarded fish were occasionally obtained but these data were not part of the headboat database.

During 2009-2013, the average private recreational landings and subsequent discards (numbers of fish, N) gag in Regulatory Amendment 22 were 14,258 fish and 80,697 discards (**Table E-1**), respectively. In the for-hire category, charterboats landed 2,688 fish, with 16,025 discards (**Table E-1**). However, for snapper grouper species that co-occur with gag, discards in the charterboat category were highest for vermilion snapper, followed by red snapper (**Table E-1**). For headboats, landings were highest for vermilion snapper and white grunt; while discards were highest for vermilion snapper, red snapper, and white grunt (**Table E-1**). Most of these species are also included in the top five species associated with gag (**Table E-1**). Wreckfish are rarely caught by the recreational sector.

Release mortality estimates in the recreational sector from the SEDAR-10, 2014 Update are 25%. Fishing for wreckfish occurs at water depths of 450-600 m, and release mortality is assumed to be 100% for wreckfish due to the depth of capture.

Table E-1. Mean headboat, MRIP (charter and private), and commercial estimates of landings and discards of snapper grouper species in the South Atlantic (2009-2013). Headboat, MRIP (charter and private) landings are in numbers of fish (N); commercial landings are in pounds whole weight (lbs ww). Discards represent numbers of fish that were caught and released alive. Wreckfish is not included due to confidential landings

Species	HEADBOAT			MRIP CHARTER			MRIP PRIVATE			COMMERCIAL	
	Catch (N)	Landings (N)	Discards (N)	Catch (N)	Landings (N)	Discards (N)	Catch (N)	Landings (N)	Discards (N)	Landings (lbs)	Discards (N)
Black grouper	1,676	337	1,339	8,902	900	8,002	31,088	6,589	24,499	51,616	1,351
Coney	101	50	51	30	11	19	897	723	174	54	3
Gag	7,157	2,479	4,678	18,713	2,688	16,025	94,955	14,258	80,697	471,689	7,004
Gray triggerfish	69,673	57,539	12,135	42,824	35,115	7,709	204,002	92,990	111,012	401,615	2,138
Graysby	2,911	1,604	1,306	1,554	1,136	418	15,985	5,467	10,518	618	23
Red grouper	11,919	1,373	10,547	6,576	945	5,631	71,283	18,781	52,502	258,312	1,614
Red hind	276	212	64	85	85	0	1,024	460	564	7,781	47
Red porgy	35,208	20,697	14,510	12,562	9,527	3,034	22,006	16,657	5,350	170,004	9,800
Red snapper	50,287	5,398	44,889	21,052	4,246	16,805	115,415	20,521	94,894	82,133	13,272
Rock hind	1,893	1,319	574	101	83	18	2,841	517	2,324	13,147	11
Scamp	4,562	2,547	2,016	3,637	2,275	1,361	6,487	4,080	2,406	194,931	740
Vermilion snapper	232,844	145,661	87,183	55,506	37,198	18,308	102,983	52,666	50,317	966,504	9,033
White grunt	179,563	143,151	36,412	29,307	19,706	9,601	379,962	195,099	184,863	108,712	389
Yellowfin grouper	18	13	5	0	0	0	97	97	0	3,275	6
Yellow-mouth grouper	17	12	5	15	15	0	0	0	0	204	0

Sources: MRIP data from SEFSC Recreational ACL Dataset (Aug 2014), Headboat data from SEFSC Headboat Logbook CRNF files (expanded; July 2014), Commercial landings data from SEFSC Commercial ACL Dataset (July 2014) with discard estimates from expanded SEFSC Commercial Logbook (Nov 2014) and Commercial Discard Logbook (Nov 2014). Note commercial discard estimates are for vertical line gear only.

Note: commercial gray triggerfish includes “triggerfishes, unclassified” category; commercial white grunt includes “grunts, unclassified” category.

Note: estimates of commercial discards are highly uncertain.

Finfish Bycatch Mortality

Recent SEDAR assessments for gag in Regulatory Amendment 22 include estimates of release mortality rates based on published studies. Stock assessment reports can be found at <http://www.sefsc.noaa.gov/sedar/>.

SEDAR-10 (2006) estimated release mortality rates of 40% and 25% for gag taken by commercial and recreational fishermen, respectively. An update to the SEDAR 10 (2006) gag assessment was conducted in 2014 (SEDAR 10 Update 2014), and found that release mortality rates remained the same. A tagging study conducted by McGovern et al. (2005) indicated recapture rates of gag decreased with increasing depth. The decline in recapture rate was attributed to depth-related mortality. Assuming there was no depth-related mortality at 0 m, McGovern et al. (2005) estimated depth related mortality ranged from 14% at 11-20 m (36-65 feet) to 85% at 71-80 m (233-262 feet). McGovern et al. (2005) estimated a release mortality rate of 50% at 50 m, which is similar to the findings of Rudershausen et al. (2007). Rudershausen et al. (2007) concluded minimum size limits are effective for gag in the shallower portions of their depth range. Overton et al. (2008) reported post-release mortality for gag as 13.3%. The data workshop for SEDAR-33, estimated depth related mortality for gag in the Gulf of Mexico ranged from 50% at 45 m (147 feet) to over 95% at 100 m and above (328 feet and above) (SEDAR-33 2014). Fishing for wreckfish occurs at water depths of 450-600 m., and release mortality is assumed to be 100% for wreckfish due to the depth of capture.

Practicability of Management Measures in Directed Fisheries Relative to their Impact on Bycatch and Bycatch Mortality

The snapper grouper fishery includes many species occupying the same location at the same time. Species most closely associated with directed fisheries for gag are red grouper, red snapper, gray triggerfish, white grunt, red porgy, scamp, specked hind, and vermilion snapper (SERO-LAPP-2010-06). Descriptions of other South Atlantic Council-managed species may be found in Volume II of the Fishery Ecosystem Plan (SAFMC 2009) available at: <http://www.safmc.net/EcosystemLibrary/FEPVolumeII>. In the wreckfish commercial sector, barrelfish (*Hyperoglyphe perciformes*) and red bream (*Beryx decadactylus*) are caught as bycatch (Goldman and Sedberry 2011) and are likely sold or used for personal consumption. Other species collected by Goldman and Sedberry (2011) on vertical lines with baited hooks from 400 to 800 m depth, on and around Charleston Bump were: splendid alfonsino (*Beryx splendens*), conger eel (*Conger oceanicus*), gulper shark (*Centrophorus granulosus*), roughskin dogfish (*Cirrhigaleus asper*), and shortspine dogfish (*Squalus mitsukurii*). Fishermen could harvest one of these species and return co-occurring species to the water as “regulatory discards” (e.g., if the fish are under the size limit) or if undesirable; however, a portion of the discarded fish would not survive due to the depths at which these fish are caught.

Alternatives under **Action 1** propose to revise the ACLs and OY for gag, and are not expected to cause significant changes in bycatch. The No Action alternative would not change the ACL or OY from the status quo. **Alternative 2** would set the ACL and OY equal to the revised ABC. In **Alternatives 3 (Preferred) - 5** the ACL and OY would be set equal to a

revised ABC. However the ABC would provide a buffer, based on the P* approach, which is a component of the ABC control rule, and is used to specify the ABC and the overfishing limit (OFL) values. **Alternative 3 (Preferred)**, the ACL would be set equal to the OY, which would be set equal to 0.95*Proposed ABC. The P* value is equal to the acceptable probability of overfishing. A smaller P* provides a larger buffer against overfishing, resulting in reduced catches. Additionally, the commercial ACL would be reduced by 27, 218 lbs ww to account for gag discard mortality from commercial trips that target co-occurring species (i.e., red grouper and scamp) during a gag closure (see the **Summary** section and **Chapter 2** of this amendment, and **Appendix E** of Regulatory Amendment 15 (SAFMC, 2013a) for details).

Alternatives in **Action 2** would modify the recreational bag limit for gag within the aggregate bag limit and are not expected to cause significant changes in bycatch. **Preferred Alternative 1 (No Action)** would not modify the recreational bag limit for gag within the aggregate bag limit, and the bag limit would remain at one gag per person per day. **Alternative 2** and **Alternative 3** would increase the gag bag limit to two and three gag per person per day; respectively, within the 3-grouper aggregate to help achieve the recreational ACL proposed in **Action 1**. The black grouper bag limit would remain at one per person per day within the aggregate grouper bag limit.

Alternatives in **Action 3** would revise the ACLs and OY for wreckfish and are not expected to cause significant changes in bycatch. The No Action alternative would not change the ACL or OY from the status quo. **Preferred Alternative 2** would set the ACL and OY equal to the revised ABC. In **Alternatives 3-5**, the ACL and OY would be set equal to a revised ABC. However, the ABC would provide a buffer based on the P* approach, which is a component of the ABC control rule, and is used to specify the ABC and OFL values. The P* value is equal to the acceptable probability of overfishing. A smaller P* provides a larger buffer against overfishing, resulting in reduced catches.

1.2 Ecological Effects Due to Changes in the Bycatch

The ecological effects of bycatch mortality are the same as fishing mortality from directed fishing efforts. If not properly managed and accounted for, either form of mortality could potentially reduce stock biomass to an unsustainable level and subsequently disrupt the ecological function of a species within the ecosystem. Stock assessments for gag and wreckfish have taken expected bycatch into consideration when specifying the overfishing limit and acceptable biological catch upon which ACLs for those species are based.

As summarized in **Section 1.1** of this BPA, the actions in Regulatory Amendment 22 are not expected to result in significant changes in bycatch of gag or wreckfish, or co-occurring species. Since the updated SEDAR 10 Update (2014) stock assessment indicate that the 3-fish aggregate bag limit is only met rarely by recreational anglers, modifying the bag limit for gag within the 3 fish aggregate grouper bag limit under **Preferred Alternative 1 (No Action)** is likely to have negligible biological and consequently ecological effects (as stated in **Chapter 3**, and analyzed in detail in **Chapter 4**). Additionally, the gag recreational ACL has not been met during the past 4 fishing years: 23% of the recreational ACL was met in 2013, 52% in 2012, 49.9% in 2011, and 50.5% in 2010. If the ACL is met, AMs are in place to ensure overfishing does not occur.

Furthermore, retaining the current gag bag limit within the grouper aggregate bag limit under **Preferred Alternative 1 (No Action)** is not likely to increase harvest or bycatch of other groupers and tilefish within the aggregate. ACLs and AMs are in place for these species to ensure overfishing does not occur, and expected bycatch has been taken into consideration when specifying catch levels. Modifying fishing seasons, reducing trip limits, and establishing new AMs would add further assurance that overfishing does not occur.

1.3 Changes in the Bycatch of Other Fish Species and Resulting Population and Ecosystem Effects

Regulatory Amendment 22 is not expected to affect major changes in bycatch of other fish species. Regulatory Amendment 15 (2013a) reduced the commercial trip limit for gag, and modified the gag AM to only close the commercial sector for gag (not other shallow water grouper species as well) when the gag quota is met. Additionally, the amendment also reduced the gag commercial ACL to account for dead discards that could occur after the gag commercial ACL is met when fishermen target co-occurring grouper species. Therefore, bycatch and discards of closely associated species such as red grouper, black grouper, red hind, rock hind, yellowmouth grouper, yellowfin grouper, coney, and graysby are not expected to be affected by the proposed actions in Regulatory Amendment 22.

1.4 Effects on Marine Mammals and Birds

Under Section 118 of the Marine Mammal Protection Act (MMPA), NMFS must publish, at least annually, a List of Fisheries (LOF) that places all U.S. commercial fisheries into one of three categories based on the level of incidental serious injury and mortality of marine mammals that occurs in each fishery. Of the gear utilized within the snapper grouper fishery, only the black sea bass pot is considered to pose an entanglement risk to marine mammals. The southeast U.S. Atlantic black sea bass pot sector is included in the grouping of the Atlantic mixed species trap/pot fisheries, which the proposed rule for the 2015 LOF classifies as a Category II (79 FR 50589, August 25, 2014). Gear types used in these sectors are determined to have occasional incidental mortality and serious injury of marine mammals. For the South Atlantic snapper grouper fishery, the best available data on protected species interactions are from the SEFSC Supplementary Discard Data Program (SDDP) initiated in July of 2001. The SDDP sub-samples 20% of the vessels with an active permit. The longline and hook-and-line gear components of the snapper grouper fishery in the South Atlantic are classified in the 2015 LOF (79 FR 50589, August 25, 2014) as Category III fisheries. Category II means that there is a remote likelihood or no known incidental mortality and serious injuries of marine mammals.

Although the black sea bass pot sector can pose an entanglement risk to large whales due to their distribution and occurrence, sperm, fin, sei, and blue whales are unlikely to overlap with the black sea bass pot sector operated within the snapper grouper fishery since it is executed primarily off North Carolina and South Carolina in waters ranging from 70-120 feet deep (21.3-36.6 meters) and these whales generally occur further offshore. However, the November 1 through April 30 closure to the pot sector in (SAFMC 2013e) further reduced the potential risk to protected species as this is the calving season for right whales in the South Atlantic. In addition,

the potential risk to protected species has likely been reduced with implementation of Amendment 18A to the Snapper Grouper FMP (SAFMC 2012), which established 32 black sea bass pot endorsements, limited the number of pots that can be fished to 35, and required that pots be returned to shore at the conclusion of a trip. Regulatory Amendment 14 to the Snapper Grouper FMP (SAFMC 2014) modified the recreational fishing year for black sea bass, modified the recreational AM for black sea bass, and modified the trip limit for gag and black sea bass. There are no documented interactions between the black sea bass pot sector and large whales.

Because of the depth at which the wreckfish commercial portion of the snapper grouper fishery operates and the gear used, not all of the protected species known to occur in the South Atlantic interact with the wreckfish portion of the snapper grouper fishery (see **Section 3.2** of this amendment for details). The impacts of the wreckfish portion of the snapper grouper fishery on sea turtles were evaluated in the biological opinion on the entire South Atlantic snapper grouper fishery (NMFS 2006). The biological opinion concluded the entire South Atlantic snapper grouper fishery (including the wreckfish sector) was likely to adversely affect sea turtles, but not jeopardize their continued existence.

The Bermuda petrel and roseate tern occur within the action area. Bermuda petrels are occasionally seen in the waters of the Gulf Stream off the coasts of North and South Carolina during the summer. Sightings are considered rare and only occurring in low numbers (Alsop 2001). Roseate terns occur widely along the Atlantic coast during the summer but in the southeast region, they are found mainly off the Florida Keys (unpublished U.S. Fish and Wildlife Service data). Interaction with fisheries has not been reported as a concern for either of these species.

Fishing effort reductions have the potential to reduce the amount of interactions between the fishery and marine mammals and birds. Although, the Bermuda petrel and roseate tern occur within the action area, these species are not commonly found and neither has been described as associating with vessels or having had interactions with the snapper grouper fishery. Thus, it is believed that the snapper grouper fishery is not likely to negatively affect the Bermuda petrel and the roseate tern.

1.5 Changes in Fishing, Processing, Disposal, and Marketing Costs

The actions in Regulatory Amendment 22 to revise the ACLs and OY for gag and wreckfish, and modify the recreational bag limit for gag within the aggregate bag limit would be expected to affect the cost of fishing operations for gag and wreckfish. It is likely that all four states (North Carolina, South Carolina, Georgia, and Florida) would be affected by actions in the amendment if implemented through rulemaking. Additionally, factors such as waterfront property values, availability of less expensive imports, etc. may affect economic decisions made by recreational and commercial fishermen who target these species.

Economic effects of the actions proposed in Regulatory Amendment 22 are addressed in **Chapter 4**, as well as **Appendices G** (Regulatory Impact Review) and **H** (Regulatory Flexibility Act Analysis).

1.6 Changes in Fishing Practices and Behavior of Fishermen

Actions proposed in Regulatory Amendment 22 could result in a modification of fishing practices by commercial and recreational fishermen. However, as discussed in **Sections 1.1 and 1.2** of this BPA, the magnitude of discards is not expected to be significantly affected by the proposed actions. It is difficult to quantify any of the measures in terms of reducing discards until bycatch has been monitored over several years. Commercial and recreational bycatch information is collected by NMFS, and that information will continue to be analyzed to determine what changes, if any, have taken place in terms of fishing practices and fishing behavior as a result of the actions implemented through this amendment.

Social effects of actions proposed in Regulatory Amendment 22 are addressed in **Chapter 4** of this document. **Section 3.4.2** includes information on environmental justice.

1.7 Changes in Research, Administration, and Enforcement Costs and Management Effectiveness

Research and monitoring is ongoing to understand the effectiveness of proposed management measures and their effect on bycatch. In 1990, the SEFSC initiated a logbook program for vessels with federal permits in the snapper grouper fishery from the Gulf of Mexico and South Atlantic. Approximately 20% of commercial fishermen are asked to fill out discard information in logbooks; however, a greater percentage of fishermen could be selected with emphasis on individuals that dominate landings. The SEFSC is developing electronic logbooks, which could be used to enable fishery managers to obtain information on species composition, size distribution, geographic range, disposition, and depth of fishes that are released. Further, The Joint Commercial Logbook Reporting Amendment is being developed by the South Atlantic Council and the Gulf of Mexico Council, which would require electronic reporting of landings information by federally-permitted commercial vessels to increase the timeliness and accuracy of landings and discard data.

Recreational discards are obtained from MRIP and logbooks from the NMFS headboat program. Additional data collection activities for the recreational sector are being considered by the South Atlantic Council that could allow for a better monitoring of snapper grouper bycatch in the future. Some observer information has been provided by Marine Fisheries Initiative and Cooperative Research Programs (CRP), but more is desired for the snapper grouper fishery. In December 2012, the Southeast Region Headboat Survey underwent a transition from paper logbooks to electronic logbooks, which is expected to improve the quality of data in that sector. As of January 1, 2013, the paper logbook form has been replaced by a new electronic logbook. The form is available through a password protected Web site on the internet, which can be accessed by personal computer, computer tablet, or “smart phone”. Amendment 31 (Joint South Atlantic/Gulf of Mexico Generic Headboat Reporting Amendment) to Snapper Grouper FMP (SAFMC 2013b) required that all federally-permitted headboats on the South Atlantic report their landings information electronically, and on a weekly basis in order to improve the timeliness and accuracy of harvest data. Regulations became effective on January 27, 2014.

Cooperative research projects between science and industry are being used to a limited extent to collect bycatch information on the snapper grouper fishery in the South Atlantic. For example, Harris and Stephen (2005) characterized the entire (retained and discarded) catch of reef fishes from a selected commercial fisherman in the South Atlantic including total catch composition and disposition of fishes that were released. The Gulf and South Atlantic Fisheries Foundation, Inc. conducted a fishery observer program within the snapper grouper vertical hook-and-line (bandit rig) fishery of the South Atlantic United States. Through contractors they randomly placed observers on cooperating vessels to collect a variety of data quantifying the participation, gear, effort, catch, and discards within the fishery.

In the spring 2010, Archipelago Marine Research Ltd. worked with North Carolina Sea Grant and several South Atlantic Unlimited Snapper Grouper Permit holders to test the effectiveness of electronic video monitoring to measure catch and bycatch. A total of 93 trips were monitored with video monitoring, 34 by self-reported fishing logbooks, and 5 by observers. Comparisons between electronic video monitoring data and observer data showed that video monitoring was a reliable source of catch and bycatch data.

Research funds for observer programs, as well as gear testing and testing of electronic devices are also available each year in the form of grants from the Marine Fisheries Initiative, Saltonstall-Kennedy program, and the CRP. Efforts are made to emphasize the need for observer and logbook data in requests for proposals issued by granting agencies. A condition of funding for these projects is that data are made available to the Councils and NMFS upon completion of a study.

Additional administrative and enforcement efforts would help to implement and enforce fishery regulations. NMFS established the South East Fishery-Independent Survey in 2010 to strengthen fishery-independent sampling efforts in southeast U.S. waters, addressing both immediate and long-term fishery-independent data needs, with an overarching goal of improving fishery-independent data utility for stock assessments. Meeting these data needs is critical to improving scientific advice to the management process, ensuring overfishing does not occur, and successfully rebuilding overfished stocks on schedule.

1.8 Changes in the Economic, Social, or Cultural Value of Fishing Activities and Non-Consumptive Uses of Fishery Resources

The preferred management measures and any changes in economic, social, or cultural values are discussed in **Chapter 4** of Regulatory Amendment 22. Further analysis can be found in **Appendices G** (Regulatory Impact Review) and **H** (Regulatory Flexibility Act Analysis).

1.9 Changes in the Distribution of Benefits and Costs

The distribution of benefits and costs expected from the action in Regulatory Amendment 22 are expected to be negligible and discussed in **Chapter 3**. Economic and social effects of the actions proposed in Regulatory Amendment 22 are addressed in **Chapter 4**.

1.10 Social Effects

The social effects of all the measures are described in **Chapter 4** of Regulatory Amendment 22.

1.11 Conclusion

This section evaluates the practicability of taking additional action to minimize bycatch and bycatch mortality using the ten factors provided at 50 CFR 600.350(d)(3)(i). In summary, measures proposed in Regulatory Amendment 22 are intended to revise the ACLs and OYs for gag and wreckfish, and to modify the recreational bag limit for gag within the aggregate bag limit. As summarized in **Section 1.1** of this BPA, most actions in Regulatory Amendment 22 are not expected to result in significant changes in bycatch of gag, wreckfish, or co-occurring species. Furthermore, Regulatory Amendment 22 is not expected to affect major changes in bycatch of other fish species.

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Appendix F. Analyses to Support Actions and Alternatives

1. Gag Recreational Bag Limit Increase Analysis

Action 2 would revise the composition of the aggregate grouper bag limit and establish a recreational bag limit for gag. The current aggregate grouper bag limit is 3 fish, only one of which can be gag or black grouper. **Alternatives 2 and 3** propose removing gag from the aggregate and establishing a bag limit of 2 gag/person/day or 3 gag/person/day, respectively. The ABC for gag in 2014 was 805,000 pounds gutted weight (lbs gw) with a total ACL of 694,000 lbs gw, equal to the yield at 75% F_{MSY} . The recreational sector was allocated 49% of the total ACL for a recreational ACL of 340,060 lbs gw.

The bag limit increase analyses were compiled using trip level recreational data. Headboat Survey (HBS) catch-effort data were examined on a monthly basis (**Table F-1**), while Marine Recreational Information Program (MRIP) catch-effort data, which was analyzed by mode, were examined on a per wave basis (**Table F-2**). Waves were then split proportionally into months for projected landings analyses. The catch-effort data used 2012 and 2013 data, as 2010 and 2011 were statistically greater within the HBS data. Due to low sample sizes (<30 fish per month) in the MRIP catch-effort data for charter and private modes, samples were aggregated across all months in 2012 and 2013 to calculate aggregated annual bag limit increases. The increased bag limits were calculated as follows: If less than 1 gag per angler was landed, there was no reduction in the landings. If greater than or equal to 1 gag per angler was landed, the total number of fish was increased to 2 or 3, respectively, for each bag limit analysis. Note that these bag limits represent the upper bounds or maximum increases that could be expected if anglers that successfully reached their limit historically also reach their limit under the new bag limits. Landings data for 2013 were used, and compiled by mode and wave, with waves proportionally split into months for MRIP data, while HBS data was compiled by month.

Table F-1. Number of trips and landings under the status quo by month for HBS data

Month	2012		2013	
	Trips	Landings	Trips	Landings
1	122	3	105	10
2	145	0	101	2
3	251	3	93	4
4	301	0	87	1
5	298	435	167	208
6	347	803	193	288
7	202	263	157	254
8	159	189	153	245
9	135	160	94	121
10	108	109	88	115
11	100	44	39	60
12	149	80	72	72

Table F-2. Number of trips and landings under the status quo by wave for MRIP data.

Wave	Private				Charter			
	2012		2013		2012		2013	
	Trips	Landings	Trips	Landings	Trips	Landings	Trips	Landings
1	9	0	12	0	21	0	20	0

2	13	0	5	0	19	0	2	0
3	23	13	16	12	12	9	6	11
4	21	9	11	6	6	8	3	1
5	28	11	8	2	12	7.2	2	0
6	15	6	5	0	10	1	6	0

The final model assumed zero landings from January through April, due to the shallow water grouper spawning closure during that time. Due to low sample sizes, data were combined across all waves and years for the MRIP dataset in order to calculate the estimated percentage increase from the new bag limits. The final model projects the landings, percentage of recreational ACL, projected closure date, and days open for each of the proposed recreational ACLs in **Action 1** for the status quo (equivalent to a bag limit of 1), 2 gag bag limit, and 3 gag bag limit.

Table F-3. Projected landings under new bag limits.

ACL	Bag Limit	Projected			
		Closure date	Days Open	Landings	% ACL
ACL = ABC: 326,340 lbs gw	Status Quo	12/31	245*	98,582	30%
	Gag Bag limit = 2			133,587	41%
	Gag Bag limit = 3			168,592	52%
ACL = 95% ABC: 310,023 lbs gw	Status Quo	12/31	245*	98,582	32%
	Gag Bag limit = 2			133,587	43%
	Gag Bag limit = 3			168,592	54%
ACL = 90% ABC 293,706 lbs gw	Status Quo	12/31	245*	98,582	34%
	Gag Bag limit = 2			133,587	45%
	Gag Bag limit = 3			168,592	57%
ACL = 80% ABC 261,072 lbs gw	Status Quo	12/31	245*	98,582	38%
	Gag Bag limit = 2			133,587	51%
	Gag Bag limit = 3			168,592	65%

*245 days open are due to the Jan-April spawning closure for shallow-water grouper.

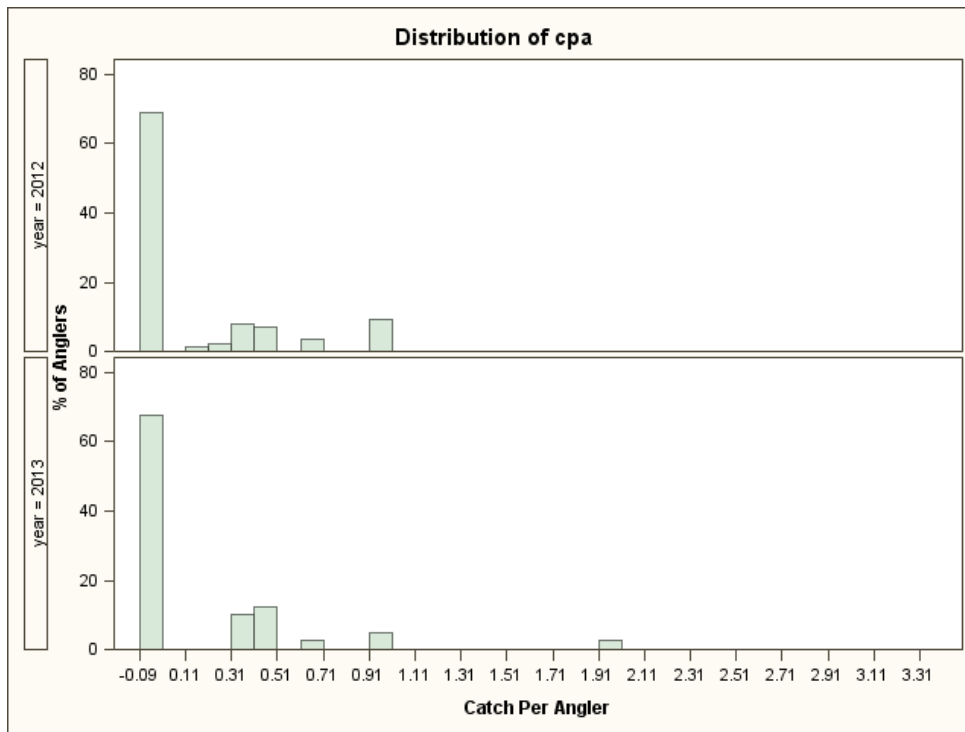


Figure 1. MRIP landings per angler (LPA) by year for private mode.

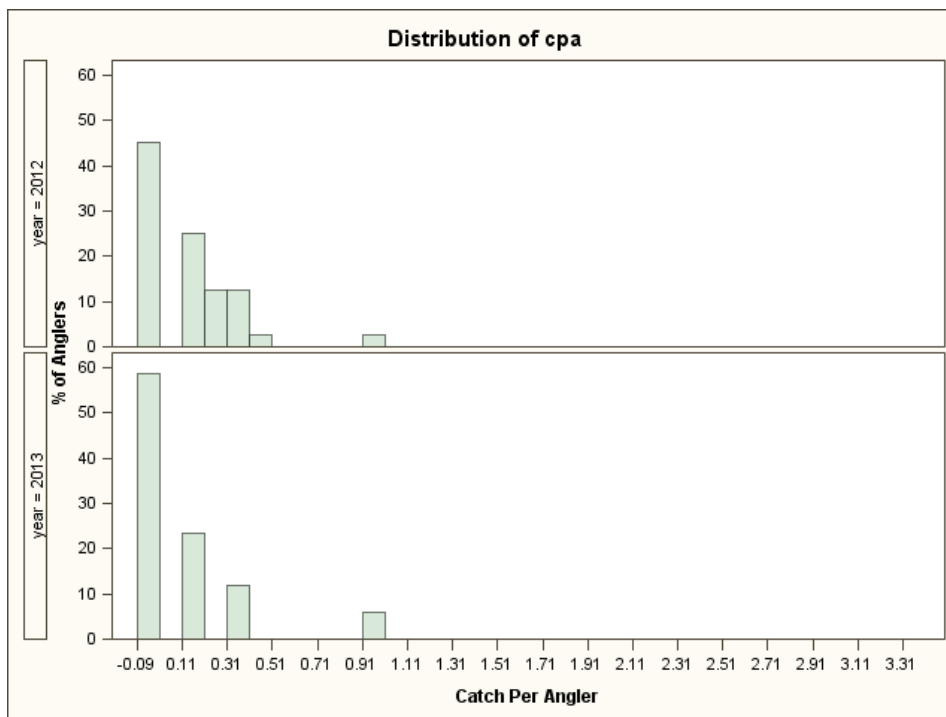


Figure 2. MRIP landings per angler (LPA) by year for charter mode.

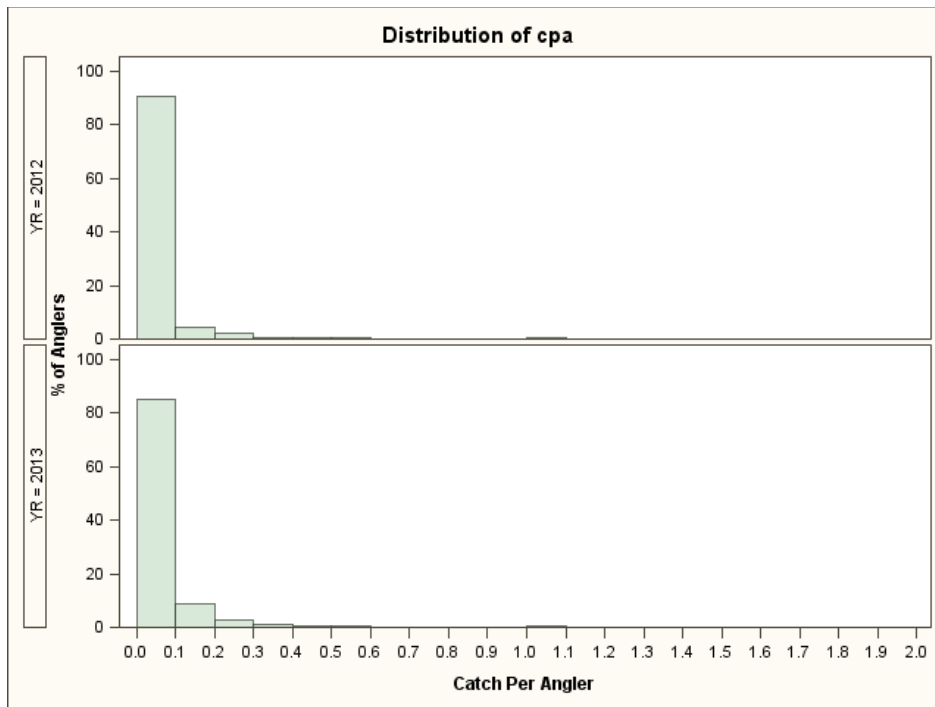


Figure 3. HBS landings per angler (LPA) by year.

2. Analysis of Aggregate Bag Limit

Action 2 proposes to revise the composition of the aggregate grouper bag limit by removing gag from the bag limit. The current aggregate grouper bag limit includes the following species: gag, black grouper, golden tilefish, snowy grouper, misty grouper, red grouper, scamp, yellowedge grouper, yellowfin grouper, yellowmouth grouper, blueline tilefish, sand tilefish, coney, grasby, red hind, and rock hind. The current aggregate grouper bag limit is 3 fish per angler per day. Within this limit, only one fish can be a gag or black grouper per person per day, only 1 golden tilefish may be landed per person per day, and only one snowy grouper can be landed per vessel per day. An analysis was requested to identify the impacts of removing gag from the aggregate, with a proposed alternative of reducing the aggregate grouper bag limit to 2 per person per day. Initial analysis looked at the number of trips that caught fish and the number of trips that landed fish (positive trip) by data source (Marine Recreational Information Program (MRIP) and Headboat Survey (HBS)). In addition, landings per angler per trip (LPA) was calculated for all trips and positive trips. The four groupings analyzed were 1) the entire aggregate, 2) gag only, 3) black grouper only, and 4) gag and/or black grouper (**Tables F-3 and F-4**). The black grouper analysis was added due to concerns that additional black grouper might be retained with the removal of or change to the 1 gag or black grouper per person per day. Between 31%-53% of the trips that caught an aggregate species landed an aggregate species. The LPA for all aggregate trips was less than one for both data sources. When adjusting for positive trips, LPA increases, but is still less than 1. Five percent of all trips caught the maximum limit per angler. The low LPA indicates that fishermen are either not encountering the fish in the aggregate or are discarding the fish due to regulations other than the bag limit (e.g. spawning season closures, size limits).

The percentage of trips catching aggregate species that landed gag was between 7-19% for MRIP trips and 15-24% for HBS trips. Average LPA for gag was less than 0.1, and the LPA for positive gag trips averaged 0.47 for MRIP trips and 0.13 for HBS trips. Trips landing black

grouper were less than trips landing gag and had lower LPAs than gag. The percentage of aggregate trips that landed gag and/or black grouper was low (MRIP trips: 11-23%, HBS trips: 18-29%). The percentage of trips where the LPA for gag and black grouper were greater than 1 were also low (MRIP: < 3%, HBS: <1%). Only 2 MRIP trips reported catching both black grouper and gag, while 13-28 HBS trips (<1%) caught both species. The low LPA for gag and/or black grouper trips indicates that it is unlikely that the removal of gag will have a considerable effect on black grouper landings.

Overall, from 2009-2013, the top five aggregate species landed for MRIP trips were: blueline tilefish, red grouper, gag, scamp, and snowy grouper. In 2012 and 2013, black grouper replaced snowy grouper as the fifth most commonly caught species. The top five species landed for HBS trips from 2009-2013 were blueline tilefish, scamp, gag, red grouper and sand tilefish. In 2009 and 2011, rock hind replaced sand tilefish as the fifth most commonly caught species. The species listed above are the species most likely to show an increase in landings if gag is removed and the aggregate grouper bag limit remains at 3 fish, although the low gag LPA would indicate that any increase in landings is highly unlikely, as the current bag limit is frequently not met.

Table F-3. Number of trips that caught a species in aggregate grouper bag limit and the average landings per angler per trip (LPA) by year from the MRIP data.

		2009	2010	2011	2012	2013
Aggregate	Trips that caught an aggregate fish	145	448	278	446	359
	Positive aggregate trips (landed an aggregate fish)	72	139	96	167	118
	Trips that with aggregate LPA ≥ 3	3	8	5	16	12
	Average aggregate LPA, all aggregate trips (max = 3)	0.45	0.29	0.29	0.34	0.33
	Average aggregate LPA, positive trips (max = 3)	0.90	0.92	0.84	0.90	1.0
Gag	Trips that landed gag	27	38	28	52	24
	Trips that discarded gag	38	121	93	154	78
	% aggregate trips that landed gag	19%	8%	10%	12%	7%
	Average gag LPA, all aggregate trips (max = 1)	0.07	0.05	0.05	0.05	0.03
	Average gag LPA, positive trips (max = 1)	0.40	0.53	0.50	0.43	0.47
Black grouper	Trips landed black grouper	6	11	7	18	16
	% all aggregate trips that landed black grouper	4%	2%	3%	4%	4%
	Average black grouper LPA, all aggregate trips (max = 1)	0.03	0.01	0.02	0.02	0.02
	Average black grouper LPA, positive trips (max = 1)	0.65	0.33	0.78	0.46	0.43
Gag and black grouper	Trips landed gag and/or black grouper	33	48	35	69	40
	% all aggregate trips that landed gag and/or black grouper	23%	11%	13%	15%	11%
	Trips where gag/ black grouper LPA ≥ 1	3	10	8	13	6
	Trips landing both gag and black grouper	0	1	0	1	0
	Average gag/black grouper LPA, all aggregate trips	0.10	0.05	0.07	0.07	0.05
	Average gag/black grouper LPA, positive trips	0.44	0.50	0.56	0.45	0.45

Table F-4. Number of trips that caught a species in aggregate grouper bag limit and the average landings per angler per trip (LPA) by year from the HBS data.

		2009	2010	2011	2012	2013
Aggregate	Trips that caught an aggregate fish	4967	4916	3772	4572	4423
	Positive aggregate trips (landed an aggregate fish)	2583	2344	1988	1926	2007
	Trips with aggregate LPA ≥ 3	23	12	32	47	20

	Average aggregate LPA, all aggregate trips (max = 3)	0.13	0.13	0.16	0.13	0.12
	Average aggregate LPA, positive trips (max = 3)	0.24	0.28	0.31	0.30	0.27
Gag	Trips that landed gag	1177	1122	922	674	663
	Trips that discarded gag	2048	1760	1428	1855	913
	% aggregate trips that landed gag	24%	23%	24%	15%	15%
	Average gag LPA, all aggregate trips (max = 1)	0.03	0.03	0.03	0.02	0.02
	Average gag LPA, positive trips (max = 1)	0.12	0.14	0.14	0.13	0.10
Black grouper	Trips landed black grouper	138	138	176	163	240
	% all aggregate trips that landed black grouper	3%	3%	5%	4%	5%
	Average black grouper LPA, all aggregate trips (max = 1)	0.003	0.003	0.006	0.004	0.007
	Average black grouper LPA, positive trips (max = 1)	0.10	0.12	0.13	0.12	0.13
Gag and black grouper	Trips landed gag and/or black grouper	1293	1240	1085	823	865
	% all aggregate trips that landed gag and/or black grouper	26%	25%	29%	18%	20%
	Trips where gag/black grouper LPA ≥ 1	18	19	15	20	6
	Trips landing both gag and black grouper	22	20	13	14	38
	Average gag/black grouper LPA	0.03	0.04	0.04	0.02	0.02
	Average gag/black grouper LPA, positive trips	0.12	0.14	0.14	0.13	0.11

Appendix G. Regulatory Impact Review

Introduction

The National Marine Fisheries Service (NMFS) requires a Regulatory Impact Review (RIR) for all regulatory actions that are of public interest. The RIR does three things: (1) It provides a comprehensive review of the level and incidence of impacts associated with a regulatory action; (2) it provides a review of the problems and policy objectives prompting the regulatory proposals and an evaluation of the major alternatives which could be used to solve the problem; and (3) it ensures that the regulatory agency systematically and comprehensively considers all available alternatives so that the public welfare can be enhanced in the most efficient and cost effective way.

The RIR also serves as the basis for determining whether any proposed regulations are a “significant regulatory action” under certain criteria provided in Executive Order 12866 (E.O. 12866) and whether the approved regulations will have a “significant economic impact on a substantial number of small business entities” in compliance with the Regulatory Flexibility Act of 1980.

Problems and Objectives

The purpose and need, issues, problems, and objectives of this action are presented in **Chapter 1, Section 1.4**.

Methodology and Framework for Analysis

This RIR assesses management measures from the standpoint of determining the resulting changes in costs and benefits to society. To the extent practicable, the net effects of the proposed measures for an existing fishery should be stated in terms of producer and consumer surplus, changes in profits, and employment in the direct and support industries. Where quantitative estimates are available, they are incorporated into the analysis of the expected economic impacts of the different actions and alternatives.

Description of the Fishery

A description of the snapper grouper fishery is contained in **Chapter 3**.

Effects of Management Measures

This action will directly apply to the businesses that own and/or operate commercial and for-hire recreational fishing vessels that harvest snapper grouper species in the South Atlantic Exclusive Economic Zone. It will also apply to recreational fishers who harvest those species from private or rental vessels in those waters. A detailed analysis and discussion of the expected economic effects of each alternative for all proposed actions is included in **Chapter 4**. The

following discussion summarizes the expected economic effects of the preferred alternatives for each action.

Action 1

The preferred alternative for **Action 1** would set the Annual Catch Limit (ACL) and Optimal Yield for gag. The commercial fishery would see a reduction in the ACL in the 2015 through 2017 fishing years compared to the status quo, with the largest reduction in 2015 and declining through 2017. However, in 2018 and 2019, the ACL for gag would increase. Over the five years, there would be a total net loss of ex-vessel revenue in the commercial sector of \$194,977 (2013 dollars). However, beginning in 2019, the commercial sector would expect to see an overall annual increase in ex-vessel revenue of approximately \$101,454 (2013 dollars) compared to the status quo. For the recreational sector, from 2015 through 2019, a similar pattern of reduced harvest and associated consumer surplus would be expected, for a total net loss of \$359,870 (2013 dollars) over the entire period. However, starting in 2019, it is expected that there will be an overall annual increase in consumer surplus in the recreational sector of approximately \$187,256 (2013 dollars) compared to the status quo.

Action 2

Action 2 considered modifying the recreational bag limit for gag. The preferred alternative chosen is the status quo. There are no additional expected economic effects from the preferred alternative.

Action 3

The preferred alternative for **Action 3** would set the ACL and Optimal Yield for wreckfish. The commercial fishery would see an increase in the ACL in the 2015 through 2020 fishing years compared to the status quo. Over the six years, there would be a total net increase of ex-vessel revenue in the commercial sector of \$3,622,606 (2013 dollars). Beginning in 2020, the commercial sector would expect to see an average annual increase in ex-vessel revenue in the commercial sector of approximately \$528,486 (2013 dollars) compared to the status quo. If they harvest their allocation, the recreational sector would be expected to receive a total increase in consumer surplus of \$179,027 (2013 dollars) compared to the status quo, and approximately \$26,197 (2013 dollars) per year starting in 2020.

Public and Private Costs of Regulations

The preparation, implementation, enforcement, and monitoring of this or any Federal action involves the expenditure of public and private resources, which can be expressed as costs associated with the regulations. Costs associated with this action include, but are not limited to Council costs of documentation preparation, meeting, and other costs; NMFS administration costs of document preparation, meetings and review, and annual law enforcement costs. A preliminary estimate is up to from \$100,000 to \$150,000 before annual law enforcement costs, if any.

Determination of Significant Regulatory Action

Pursuant to E.O. 12866, a regulation is considered a “significant regulatory action” if it is expected to result in: (1) an annual effect of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities; (2) create a serious inconsistency or otherwise interfere with an action taken or planned by another agency; (3) materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights or obligations of recipients thereof; or (4) raise novel legal or policy issues arising out of legal mandates, the President’s priorities, or the principles set forth in this executive order. Based on the information provided above, this proposed action has been determined to not be economically significant for the purposes of E.O. 12866.

APPENDIX H. REGULATORY FLEXIBILITY ACT ANALYSIS

1 Introduction

The purpose of the Regulatory Act Analysis (RFA) is to establish a principle of regulatory issuance that agencies shall endeavor, consistent with the objectives of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of businesses, organizations, and governmental jurisdictions subject to regulation. To achieve this principle, agencies are required to solicit and consider flexible regulatory proposals and to explain the rationale for their actions to assure such proposals are given serious consideration. The RFA does not contain any decision criteria; instead the purpose of the RFA is to inform the agency, as well as the public, of the expected economic impacts of various alternatives contained in the fishery management plan (FMP) or amendment (including framework management measures and other regulatory actions) and to ensure the agency considers alternatives that minimize the expected impacts while meeting the goals and objectives of the FMP and applicable statutes.

The RFA requires agencies to conduct a Regulatory Flexibility Act Analysis (RFAA) for each proposed rule. The RFAA is designed to assess the impacts various regulatory alternatives would have on small entities, including small businesses, and to determine ways to minimize those impacts. An RFAA is conducted to primarily determine whether the proposed action would have a “significant economic impact on a substantial number of small entities.” The RFAA provides: 1) A description of the reasons why action by the agency is being considered; 2) a succinct statement of the objectives of, and legal basis for, the proposed rule; 3) a description and, where feasible, an estimate of the number of small entities to which the proposed rule will apply; 4) a description of the projected reporting, record-keeping, and other compliance requirements of the proposed rule, including an estimate of the classes of small entities which will be subject to the requirements of the report or record; 5) an identification, to the extent practicable, of all relevant federal rules, which may duplicate, overlap, or conflict with the proposed rule; 6) a description and estimate of the expected economic impacts on small entities; and 7) an explanation of the criteria used to evaluate whether the rule would impose “significant economic impacts.”

2 Statement of the need for, objective of, and legal basis for the proposed action

The need for and objectives of this proposed action are provided in **Chapter 1**. In summary, the objective of this proposed action is to respond to adjust the annual catch limits and associated quotas for gag and wreckfish to make them consistent with the recent stock assessment results and prevent overfishing of these species. The Magnuson-Stevens Fishery Conservation and Management Act provides the statutory basis for this proposed action.

3 Description and estimate of the number of small entities to which the proposed action would apply

This proposed actions, if implemented, would be expected to directly affect all commercial fishing vessels that harvest either gag or wreckfish in the South Atlantic Exclusive Economic Zone (EEZ). Over the period 2009-2013, an average of 245 vessels per year recorded commercial landings of gag and 6 vessels per year recorded commercial landings of wreckfish. More recent estimates are not available. These two groups of vessels are assumed for the purpose of this analysis to be mutually exclusive. This proposed action would, therefore, be expected to affect an estimated 245 commercial fishing vessels per year that harvest gag and 6 commercial vessels per year that harvest wreckfish. The estimated average annual gross revenue from all fishing activity by the commercial vessels that harvested gag over this period was approximately \$49,000 (2013 dollars) and the average for the vessels that harvested wreckfish was approximately \$288,000 (2013 dollars).

Charter vessels and headboats (for-hire vessels) sell fishing services, which include the harvest of gag and wreckfish, to recreational anglers. These vessels provide a platform for the opportunity to fish and not a guarantee to catch or harvest any species, though expectations of successful fishing, however defined, likely factor into the decision to purchase these services. Changing the allowable harvest of a species only defines what can be kept and does not explicitly prevent the continued offer of for-hire fishing services. In response to a change in the allowable harvest, including a zero-fish limit, catch and release fishing for a target species could continue, as could fishing for other species. Because the proposed changes in the gag and wreckfish quotas would not directly alter the service sold by these vessels, this proposed action would not directly apply to or regulate their operations. For-hire vessels would continue to be able to offer their core product, which is an attempt to “put anglers on fish,” provide the opportunity for anglers to catch whatever their skills enable them to catch, and keep those fish that they desire to keep and are legal to keep. Any change in demand for these fishing services, and associated economic affects, as a result of changing a quota would be a consequence of behavioral change by anglers, secondary to any direct effect on anglers, and, therefore, an indirect effect of the proposed regulatory action. Because the effects on for-hire vessels would be indirect, they fall outside the scope of the RFA. Recreational anglers, who may be directly affected by the proposed changes in the gag and wreckfish quotas, are not small entities under the RFA.

NMFS has not identified any other small entities that would be expected to be directly affected by this proposed action.

The Small Business Administration (SBA) has established size criteria for all major industry sectors in the U.S., including commercial fish harvesters. A business involved in commercial fish harvesting is classified as a small business if it is independently owned and operated, is not dominant in its field of operation (including its affiliates), and has combined annual receipts not in excess of \$20.5 million (NAICS code 114111, finfish fishing) for all its affiliated operations worldwide. Because the average annual revenue estimates provided above are significantly less than the SBA revenue threshold for this sector, all commercial vessels expected to be directly affected by this proposed action are believed to be small business entities.

4 Description of the projected reporting, record-keeping and other compliance requirements of the proposed action, including an estimate of the classes of small entities which will be subject to the requirement and the type of professional skills necessary for the preparation of the report or records

This proposed actions would not require any new reporting, record-keeping, or other compliance requirements associated with reporting or record-keeping that may require professional skills.

5 Identification of all relevant federal rules, which may duplicate, overlap or conflict with the proposed action

No duplicative, overlapping, or conflicting federal rules have been identified.

6 Significance of economic impacts on a substantial number of small entities

Substantial number criterion

This proposed actions, if implemented, would be expected to directly impact 245 small business entities that commercially harvest gag and 6 small entities that commercially harvest wreckfish.

Significant economic impacts

The outcome of “significant economic impact” can be ascertained by examining two factors: disproportionality and profitability.

Disproportionality: Do the regulations place a substantial number of small entities at a significant competitive disadvantage to large entities?

All entities expected to be directly affected by this proposed action are believed to be small business entities, so the issue of disproportionality does not arise.

Profitability: Do the regulations significantly reduce profits for a substantial number of small entities?

This proposed actions would set the annual commercial quotas for gag for 2015-2019 and the annual quotas for wreckfish for 2015-2020. The 2019 gag commercial quota would remain in place in subsequent years unless changed, as would the 2020 wreckfish commercial quota. The proposed gag commercial quotas would be expected to result in a total reduction in revenue from gag to all vessels of approximately \$154,000 (2013 dollars) in 2015, approximately \$142,000 in 2016, and approximately \$42,000 in 2017. Beginning in 2018, the proposed gag annual commercial quotas would be more than the current quota and would, as a result, be expected to

result in increased revenue from gag each year. If the annual reductions in gag revenue are not offset by increased harvest and revenue from other species (the average annual revenue from other species harvested by these vessels was more than six times the revenue derived from gag from 2009-2013), the projected reductions in revenue from gag would equate to approximately \$630 per vessel (245 vessels) in 2015, or approximately 1.3% of average annual revenue from all fishing activity, and decline to \$580 per vessel in 2016, and \$170 per vessel in 2017. Averaged over the entire five years (2015-2019), the average annual reduction in revenue per vessel would be approximately \$160, or less than 1% of the average annual fishing revenue per vessel. As a result, this proposed action would be expected to result in a minor adverse economic effect on the affected small entities.

All of the proposed wreckfish annual commercial quotas would allow increased wreckfish harvests than currently allowed. As a result, the revenue and profits associated with commercial wreckfish harvest could increase and this proposed action would be expected to have a beneficial economic effect on the affected small entities.

Based on the discussion above, NMFS determines that these proposed actions, if implemented, would not have a significant adverse economic effect on a substantial number of small entities. As a result, an initial regulatory flexibility analysis is not required and none has been prepared.

7 Description of the significant alternatives to the proposed action and discussion of how the alternatives attempt to minimize economic impacts on small entities

The proposed actions, if adopted, would not be expected to have a significant adverse economic effect on a substantial number of small entities. As a result, the issue of significant alternatives is not relevant.

Appendix I. Essential Fish Habitat and Move to Ecosystem Based Management

South Atlantic Fishery Management Council Habitat Conservation, Ecosystem Coordination and Collaboration

The Council, using the Essential Fish Habitat Plan as the cornerstone, adopted a strategy to facilitate the move to an ecosystem-based approach to fisheries management in the region. This approach required a greater understanding of the South Atlantic ecosystem and the complex relationships among humans, marine life, and the environment including essential fish habitat. To accomplish this, a process was undertaken to facilitate the evolution of the Habitat Plan into a Fishery Ecosystem Plan (FEP), thereby providing a more comprehensive understanding of the biological, social, and economic impacts of management necessary to initiate the transition from single species management to ecosystem-based management in the region.

Moving to Ecosystem-Based Management

The Council adopted broad goals for Ecosystem-Based Management to include maintaining or improving ecosystem structure and function; maintaining or improving economic, social, and cultural benefits from resources; and maintaining or improving biological, economic, and cultural diversity. Development of a regional FEP (SAFMC 2009a) provided an opportunity to expand the scope of the original Council Habitat Plan and compile and review available habitat, biological, social, and economic fishery and resource information for fisheries in the South Atlantic ecosystem. The South Atlantic Council views habitat conservation as the core of the move to EBM in the region. Therefore, development of the FEP was a natural next step in the evolution and expands and significantly updates the SAFMC Habitat Plan (SAFMC 1998a) incorporating comprehensive details of all managed species (SAFMC, South Atlantic States, ASMFC, and NOAA Fisheries Highly Migratory Species and Protected Species) including their biology, food web dynamics, and economic and social characteristics of the fisheries and habitats essential to their survival. The FEP therefore serves as a source document and presents more complete and detailed information describing the South Atlantic ecosystem and the impact of fisheries on the environment. This FEP updated information on designated Essential Fish Habitat (EFH) and EFH-Habitat Areas of Particular Concern; expanded descriptions of biology and status of managed species; presented information that will support ecosystem considerations for managed species; and described the social and economic characteristics of the fisheries in the region. In addition, it expanded the discussion and description of existing research programs and needs to identify biological, social, and economic research needed to fully address ecosystem-based management in the region. It is anticipated that the FEP will provide a greater degree of guidance by fishery, habitat, or major ecosystem consideration of bycatch reduction, prey-predator interactions, maintaining biodiversity, and spatial management needs. This FEP serves as a living source document of biological, economic, and social information for all Fishery Management Plans (FMP). Future Environmental Assessments and Environmental Impact Statements associated with subsequent amendments to Council FMPs will draw from or cite by reference the FEP.

The Fishery Ecosystem Plan for the South Atlantic Region encompasses the following volume structure:

- FEP Volume I - Introduction and Overview of FEP for the South Atlantic Region
- FEP Volume II - South Atlantic Habitats and Species
- FEP Volume III - South Atlantic Human and Institutional Environment
- FEP Volume IV - Threats to South Atlantic Ecosystem and Recommendations
- FEP Volume V - South Atlantic Research Programs and Data Needs
- FEP Volume VI - References and Appendices

Comprehensive Ecosystem-Based Amendment (CE-BA) 1 (SAFMC 2009b) is supported by this FEP and updated EFH and EFH-HAPC information and addressed the Final EFH Rule (e.g., GIS presented for all EFH and EFH-HAPCs). Management actions implemented in CE-BA 1 established deepwater Coral HAPCs to protect what is thought to be the largest continuous distribution (>23,000 square miles) of pristine, deepwater coral ecosystems in the world.

The Fishery Ecosystem Plan, slated to be revised every 5 years, will again be the vehicle to update and refine information supporting designation and future review of EFH and EFH-HAPCs for managed species. Planning for the update is being conducted in cooperation with the Habitat Advisory Panel during the fall and winter of 2013 with initiation during 2014.

Ecosystem Approach to Deepwater Ecosystem Management

The South Atlantic Council manages coral, coral reefs and live/hard bottom habitat, including deepwater corals, through the Fishery Management Plan for Coral, Coral Reefs and Live/Hard Bottom Habitat of the South Atlantic Region (Coral FMP). Mechanisms exist in the FMP, as amended, to further protect deepwater coral and live/hard bottom habitats. The SAFMC's Habitat and Environmental Protection Advisory Panel and Coral Advisory Panel have supported proactive efforts to identify and protect deepwater coral ecosystems in the South Atlantic region. Management actions in Comprehensive Ecosystem-Based Amendment (CE-BA 1) (SAFMC 2009b) established deepwater coral HAPCs (C- HAPCs) to protect what is thought to be the largest continuous distribution (>23,000 square miles) of pristine deepwater coral ecosystems in the world. In addition, CE-BA 1 established areas within the CHAPC, which provide for traditional fishing in limited areas, which do not impact deepwater coral habitat. CE-BA 1, supported by the FEP, also addressed non-regulatory updates for existing EFH and EFH- HAPC information and addressed the spatial requirements of the Final EFH Rule (i.e., GIS presented for all EFH and EFH-HAPCs). Actions in this amendment included modifications in the management of the following: octocorals; special management zones (SMZs) off the coast of South Carolina; and sea turtle release gear requirements for snapper grouper fishermen. The amendment also designated essential fish habitat (EFH) and EFH-Habitat Areas of Particular Concern (EFH-HAPCs).

CE-BA 2 established annual catch limits (ACL) for octocorals in the South Atlantic as well as modifying the Fishery Management Unit (FMU) for octocorals to remove octocorals off the coast of Florida from the FMU (SAFMC 2011). The amendment also limited the possession of managed species in the SMZs off South Carolina to the recreational bag limit for snapper grouper

and coastal migratory pelagic species; modified sea turtle release gear requirements for the snapper grouper fishery based upon freeboard height of vessels; amends Council fishery management plans (FMPs) to designate or modify EFH and EFH-HAPCs, including the FMP for Pelagic Sargassum Habitat; amended the Coral FMP to designate EFH for deepwater Coral HAPCs designated under CE-BA 1; and amended the Snapper Grouper FMP to designate EFH-HAPCs for golden and blueline tilefish and the deepwater Marine Protected Areas. The final rule was published in the federal register on December 30, 2011, and regulations became effective on January 30, 2012.

Building from a Habitat to an Ecosystem Network to Support the Evolution

Starting with our Habitat and Environmental Protection Advisory Panel, the Council expanded and fostered a comprehensive Habitat network in our region to develop the Habitat Plan of the South Atlantic Region completed in 1998 to support the EFH rule. Building on the core regional collaborations, the Council facilitated an expansion to a Habitat and Ecosystem network to support development of the FEP and CE-BA as well as coordinate with partners on other regional efforts.

Integrated Ocean Observing System (IOOS) and Southeast Coastal and Ocean Observing Regional Association (SECOORA)

The Integrated Ocean Observing System (IOOS®) is a partnership among federal, regional, academic, and private sector parties that works to provide new tools and forecasts to improve safety, enhance the economy, and protect our environment. IOOS supplies critical information about our Nation's oceans, coasts, and Great Lakes. Scientists working to understand climate change, governments adapting to changes in the Arctic, municipalities monitoring local water quality, and industries affected by coastal and marine spatial planning all have the same need: reliable, timely, and sustained access to data and information that inform decision making. Improving access to key marine data and information supports several purposes. IOOS data sustain national defense, marine commerce, and navigation safety. Scientists use these data to issue weather, climate, and marine forecasts. IOOS data are also used to make decisions for energy siting and production, economic development, and ecosystem-based resource management. Emergency managers and health officials need IOOS information to make decisions about public safety. Teachers and government officials rely on IOOS data for public outreach, training, and education.

SECOORA is one of 11 Regional Associations established nationwide through the US IOOS whose primary source of funding is through a 5-year cooperative agreement titled "Coordinated Monitoring, Prediction, and Assessment to Support Decision-Makers Needs for Coastal and Ocean Data and Tools". However, SECOORA was recently awarded funding via a NOAA Regional Ocean Partnership grant through the Governors' South Atlantic Alliance. SECOORA is the regional solution to integrating coastal and ocean observing data in the Southeast United States to inform decision makers and the general public. The SECOORA region encompasses 4 states, over 42 million people, and spans the coastal ocean from North Carolina to the west Coast of Florida and is creating customized products to address these thematic areas: Marine Operations; Coastal Hazards; Ecosystems,

Water Quality, Living Marine Resources; and Climate Change. The Council is a voting member and Council staff was recently re-elected to serve on the Board of Directors for the Southeast Coastal Regional Ocean Observing Association (SECOORA) to guide and direct priority needs for observation and modeling to support fisheries oceanography and integration into stock assessments through SEDAR. Cooperation through SECOORA is envisioned to facilitate the following:

- Refining current or water column designations of EFH and EFH-HAPCs (e.g., Gulf Stream and Florida Current).
- Providing oceanographic models linking benthic, pelagic habitats, and food webs.
- Providing oceanographic input parameters for ecosystem models.
- Integration of OOS information into Fish Stock Assessment process in the SA region.
- Facilitating OOS system collection of fish and fishery data and other research necessary to support the Council's use of area-based management tools in the SA Region including but not limited to EFH, EFH-HAPCs, Marine Protected Areas, Deepwater Coral Habitat Areas of Particular Concern, Special Management Zones, and Allowable Gear Areas.
- Integration of OOS program capabilities and research Needs into the South Atlantic Fishery Ecosystem Plan.
- Collaboration with SECOORA to integrate OOS products with information included in the Council's Habitat and Ecosystem Web Services and Atlas to facilitate model and tool development.
- Expanding Map Services and the Regional Habitat and Ecosystem Atlas in cooperation with SECOORAs Web Services that will provide researchers access to data or products including those collected/developed by SA OOS partners.

SECOORA researchers are developing a comprehensive data portal to provide discovery of, access to, and metadata about coastal ocean observations in the southeast US. Below are various ways to access the currently available data.

One project recently funded by SECOORA initiated development of species specific habitat models that integrate remotely sensed and in situ data to enhance stock assessments for species managed by the Council. The project during 2013/2014 was initiated to address red porgy, gray triggerfish, black seabass, and vermilion snapper. Gray triggerfish and red porgy are slated for assessment through SEDAR in 2014/15 and 2015/16 respectively.

National Fish Habitat Plan and Southeast Aquatic Resource Partnership (SARP)

In addition, the Council serves on the National Habitat Board and, as a member of the Southeast Aquatic Resource Partnership (SARP), has highlighted this collaboration by including the Southeast Aquatic Habitat Plan (SAHP) and associated watershed conservation restoration targets into the FEP. Many of the habitat, water quality, and water quantity conservation needs identified in the threats and recommendations Volume of the FEP are directly addressed by on-the-ground projects supported by SARP. This cooperation results in funding fish habitat restoration and conservation intended to increase the viability of fish populations and fishing opportunity, which also meets the needs to conserve and manage

Essential Fish Habitat for Council managed species or habitat important to their prey. To date, SARP has funded 53 projects in the region through this program. This work supports conservation objectives identified in the SAHP to improve, establish, or maintain riparian zones, water quality, watershed connectivity, sediment flows, bottoms and shorelines, and fish passage, and addresses other key factors associated with the loss and degradation of fish habitats. SARP also developed the Southern Instream Flow Network (SIFN) to address the impacts of flow alterations in the Southeastern US aquatic ecosystems which leverages policy, technical experience, and scientific resources among partners based in 15 states. Maintaining appropriate flow into South Atlantic estuarine systems to support healthy inshore habitats essential to Council managed species is a major regional concern and efforts of SARP through SIFN are envisioned to enhance state and local partners ability to maintain appropriate flow rates.

Governor's South Atlantic Alliance (GSAA)

Initially discussed as a South Atlantic Eco-regional Compact, the Council has also cooperated with South Atlantic States in the formation of a Governor's South Atlantic Alliance (GSAA). This will also provide regional guidance and resources that will address State and Council broader habitat and ecosystem conservation goals. The GSAA was initiated in 2006. An Executive Planning Team (EPT), by the end of 2007, had created a framework for the Governors South Atlantic Alliance. The formal agreement between the four states (NC, SC, GA, and FL) was executed in May 2009. The Agreement specifies that the Alliance will prepare a "Governors South Atlantic Alliance Action Plan" which will be reviewed annually for progress and updated every five years for relevance of content. The Alliance's mission and purpose is to promote collaboration among the four states, and with the support and interaction of federal agencies, academe, regional organizations, non-governmental organizations, and the private sector, to sustain and enhance the region's coastal and marine resources. The Alliance proposes to regionally implement science-based actions and policies that balance coastal and marine ecosystems capacities to support both human and natural systems. The GSAA Action Plan was released in December 2010 and describes the four Priority Issue Areas that were identified by the Governors to be of mutual importance to the sustainability of the region's resources: Healthy Ecosystems; Working Waterfronts; Clean Coastal and Ocean Waters; and Disaster-Resilient Communities. The goals, objectives, actions, and implementation steps for each of these priorities were further described in the GSAA Implementation Plan released in July 2011. The final Action Plan was released on December 1, 2010 and marked the beginning of intensive work by the Alliance Issue Area Technical Teams (IATTs) to develop implementation steps for the actions and objectives. The GSAA Implementation Plan was published July 6, 2011, and the Alliance has been working to implement the Plan through the IATTs and two NOAA-funded Projects. The Alliance also partners with other federal agencies, academia, non-profits, private industry, regional organizations, and others. The Alliance supports both national and state-level ocean and coastal policy by coordinating federal, state, and local entities to ensure the sustainability of the region's economic, cultural, and natural resources. The Alliance has organized itself around the founding principles outlined in the GSAA Terms of Reference and detailed in the GSAA Business Plan. A team of natural resource managers, scientists, and information management system experts have partnered to develop a Regional Information Management System (RIMS) and recommend decision support tools that will support regional collaboration and decision-making. In addition to regional-level

stakeholders, state and local coastal managers and decision makers will also be served by this project, which will enable ready access to new and existing data and information. The collection and synthesis of spatial data into a suite of visualization tools is a critical step for long-term collaborative planning in the South Atlantic region for a wide range of coastal uses. The Council's Atlas presents the spatial representations of Essential Fish Habitat, managed areas, regional fish and fish habitat distribution, and fishery operation information and it can be linked to or drawn on as a critical part of the collaboration with the RIMS.

South Atlantic Landscape Conservation Cooperative

One of the more recent collaborations is the Council's participation as Steering Committee member for the newly established South Atlantic Landscape Conservation Cooperative (SALCC). Landscape Conservation Cooperatives (LCCs) are applied conservation science partnerships focused on a defined geographic area that informs on-the-ground strategic conservation efforts at landscape scales. LCC partners include DOI agencies, other federal agencies, states, tribes, non-governmental organizations, universities, and others. The newly formed Department of Interior Southeast Climate Services Center (CSC) has the LCCs in the region as their primary clients. One of the initial charges of the CSCs is to downscale climate models for use at finer scales.

The SALCC developed a Strategic Plan through an iterative process that began in December 2011. The plan provides a simple strategy for moving forward over the next few years. An operations plan was developed under direction from the SALCC Steering Committee to redouble efforts to develop version 1.0 of a shared conservation blueprint by spring-summer of 2014. The SALCC is developing the regional blueprint to address the rapid changes in the South Atlantic including but not limited to climate change, urban growth, and increasing human demands on resources which are reshaping the landscape. While these forces cut across political and jurisdictional boundaries, the conservation community does not have a consistent cross-boundary, cross-organization plan for how to respond. The South Atlantic Conservation Blueprint will be that plan. The blueprint is envisioned to be a spatially-explicit map depicting the places and actions need to sustain South Atlantic LCC objectives in the face of future change. The steps to creating the blueprint include development of: indicators and targets (shared metrics of success); the State of the South Atlantic (past, present, and future condition of indicators); and a Conservation Blueprint. Potential ways the blueprint could be used include: finding the best places for people and organizations to work together; raising new money to implement conservation actions; guiding infrastructure development (highways, wind, urban growth, etc.); creating incentives as an alternative to regulation; bringing a landscape perspective to local adaptation efforts; and locating places and actions to build resilience after major disasters (hurricanes, oil spills, etc.). Integration of connectivity, function, and threats to river, estuarine and marine systems supporting Council managed species is supported by the SALCC and enhanced by the Council being a voting member of its Steering Committee. In addition, the Council's Regional Atlas presents spatial representations of Essential Fish Habitat, managed areas, regional fish and fish habitat distribution, and fishery operation information and it be linked to or drawn on as a critical part of the collaboration with the recently developed SALCC Conservation Planning Atlas.

Building Tools to support EBM in the South Atlantic Region

The Council has developed a Habitat and Ecosystem Section of the website <http://www.safmc.net/ecosystem/Home/EcosystemHome/tabid/435/Default.aspx> and, in cooperation with the Florida Wildlife Research Institute (FWRI), developed a Habitat and Ecosystem Internet Map Server (IMS). The IMS was developed to support Council and regional partners' efforts in the transition to EBM. Other regional partners include NMFS Habitat Conservation, South Atlantic States, local management authorities, other Federal partners, universities, conservation organizations, and recreational and commercial fishermen. As technology and spatial information needs evolved, the distribution and use of GIS demands greater capabilities. The Council has continued its collaboration with FWRI in the now evolution to Web Services provided through the regional SAFMC Habitat and Ecosystem Atlas (http://ocean.floridamarine.org/safmc_atlas/) and the SAFMC Digital Dashboard (http://ocean.floridamarine.org/safmc_dashboard/). The Atlas integrates services for the following:

Species distribution and spatial presentation of regional fishery independent data from the SEAMAP-SA, MARMAP, and NOAA SEFIS systems; SAFMC Fisheries: (http://ocean.floridamarine.org/SA_Fisheries/)

Essential Fish Habitat and Essential Fish Habitat Areas of Particular Concern; SAFMC EFH: (http://ocean.floridamarine.org/sa_efh/)

Spatial presentation of managed areas in the region; SAFMC Managed Areas: (http://ocean.floridamarine.org/safmc_managedareas/)

An online life history and habitat information system supporting Council managed, State managed, and other regional species was developed in cooperation with FWRI. The Ecospecies system is considered dynamic and presents, as developed, detailed individual species life history reports and provides an interactive online query capability for all species included in the system: <http://atoll.floridamarine.org/EcoSpecies>

Web Services System Updates:

- Essential Fish Habitat (EFH) – displays EFH and EFH-HAPCS for SAFMC managed species and NOAA Fisheries Highly Migratory Species.
- Fisheries - displays Marine Resources Monitoring, Assessment, and Prediction (MARMAP) and Southeast Area Monitoring and Assessment Program South Atlantic (SEAMAP-SA) data.

- Managed Areas - displays a variety of regulatory boundaries (SAFMC and Federal) or management boundaries within the SAFMC's jurisdiction.
- Habitat – displays habitat data collected by SEADESC, Harbor Branch Oceanographic Institute (HBOI), and Ocean Exploration dives, as well as the SEAMAP shallow and ESDIM deepwater bottom mapping projects, multibeam imagery, and scientific cruise data.
- Multibeam Bathymetry - displays a variety of multibeam data sources and scanned bathymetry charts.
- Nautical Charts – displays coastal, general, and overview nautical charts for the SAFMC's jurisdictional area.

Ecosystem Based Action, Future Challenges and Needs

The Council has implemented ecosystem-based principles through several existing fishery management actions including establishment of deepwater Marine Protected Areas for the Snapper Grouper fishery, proactive harvest control rules on species (e.g., dolphin and wahoo) which are not overfished, implementing extensive gear area closures which in most cases eliminate the impact of fishing gear on Essential Fish Habitat, and use of other spatial management tools including Special Management Zones. Pursuant to development of the Comprehensive Ecosystem-Based Amendment, the Council has taken an ecosystem approach to protect deepwater ecosystems while providing for traditional fisheries for the Golden Crab and Royal Red shrimp in areas where they do not impact deepwater coral habitat. The stakeholder based process taps in on an extensive regional Habitat and Ecosystem network. Support tools facilitate Council deliberations and with the help of regional partners, are being refined to address long-term ecosystem management needs.

One of the greatest challenges to the long-term move to EBM in the region is funding high priority research, including but not limited to, comprehensive benthic mapping and ecosystem model and management tool development. In addition, collecting detailed information on fishing fleet dynamics including defining fishing operation areas by species, species complex, and season, as well as catch relative to habitat is critical for assessment of fishery, community, and habitat impacts and for Council use in place based management measures. Additional resources need to be dedicated to expand regional coordination of modeling, mapping, characterization of species use of habitats, and full funding of regional fishery independent surveys (e.g., MARMAP, SEAMAP, and SEFIS) which are linking directly to addressing high priority management needs. Development of ecosystem information systems to support Council management should build on existing tools (e.g., Regional Habitat and Ecosystem GIS and Arc Services) and provide resources to regional cooperating partners for expansion to address long-term Council needs.

The FEP and CE-BA 1 complement, but do not replace, existing FMPs. In addition, the FEP serves as a source document to the CE-BAs. NOAA should support and build on the regional coordination efforts of the Council as it transitions to a broader management approach. Resources need to be provided to collect information necessary to update and refine our FEP and support future fishery actions including but not limited to completing one of the highest priority needs to support EBM, the completion of mapping of near-shore, mid-shelf, shelf edge,

and deepwater habitats in the South Atlantic region. In developing future FEPs, the Council will draw on SAFEs (Stock Assessment and Fishery Evaluation reports) which NMFS is required to provide the Council for all FMPs implemented under the Magnuson-Stevens Act. The FEP, which has served as the source document for CE-BAs, could also meet some of the NMFS SAFE requirements if information is provided to the Council to update necessary sections.

EFH and EFH-HAPC Designations Translated to Cooperative Habitat Policy Development and Protection

The Council actively comments on non-fishing projects or policies that may impact fish habitat. **Appendix A** of the Comprehensive Amendment Addressing Essential Fish Habitat in Fishery Management Plans of the South Atlantic Region (SAFMC 1998b) outlines the Council's comment and policy development process and the establishment of a four-state Habitat Advisory Panel. Members of the Habitat Advisory Panel serve as the Council's habitat contacts and professionals in the field. AP members bring projects to the Council's attention, draft comment letters, and attend public meetings. With guidance from the Advisory Panel, the Council has developed and approved policies on:

1. Energy exploration, development, transportation, and hydropower re-licensing;
2. Beach dredging and filling and large-scale coastal engineering;
3. Protection and enhancement of submerged aquatic vegetation;
4. Alterations to riverine, estuarine, and nearshore flows;
5. Marine aquaculture;
6. Marine Ecosystems and Non-Native and Invasive Species: and
7. Estuarine Ecosystems and Non-Native and Invasive Species.

NOAA Fisheries, State and other Federal agencies apply EFH and EFH-HAPC designations and protection policies in the day-to-day permit review process. The revision and updating of existing habitat policies and the development of new policies is being coordinated with core agency representatives on the Habitat and Coral Advisory Panels. Existing policies are included at the end of this Appendix.

The Habitat and Environmental Protection Advisory Panel, as part of their role in providing continued policy guidance to the Council, is during 2013/14, reviewing and proposing revisions and updates to the existing policy statements and developing new ones for Council consideration. The effort is intended to enhance the value of the statements and support cooperation and collaboration with NOAA Fisheries Habitat Conservation Division and State and Federal partners in better addressing the Congressional mandates to the Council associated with designation and conservation of EFH in the region.

South Atlantic Bight Ecopath Model

The Council worked cooperatively with the University of British Columbia and the Sea Around Us project to develop a straw-man and preliminary food web models (Ecopath with Ecosim) to characterize the ecological relationships of South Atlantic species, including those managed by the Council. This effort was envisioned to help the Council and cooperators in identifying available information and data gaps while providing insight into ecosystem function. More

importantly, the model development process provides a vehicle to identify research necessary to better define populations, fisheries, and their interrelationships. While individual efforts are still underway in the South Atlantic, only with significant investment of new resources through other programs will a comprehensive regional model be further developed.

The latest collaboration builds on the previous Ecopath model developed through the Sea Around Us project for the South Atlantic Bight with a focus on beginning a dialogue on the implications of potential changes in forage fish populations in the region that could be associated with environmental or climate change or changes in direct exploitation of those populations.

Essential Fish Habitat and Essential Fish Habitat Areas of Particular Concern

Following is a summary of the current South Atlantic Council's EFH and EFH-HAPCs. Information supporting their designation was updated (pursuant to the EFH Final Rule) in the Council's Fishery Ecosystem Plan and Comprehensive Ecosystem Amendment:

Snapper Grouper FMP

Essential fish habitat for snapper grouper species includes coral reefs, live/hard bottom, submerged aquatic vegetation, artificial reefs, and medium to high profile outcroppings on and around the shelf break zone from shore to at least 600 feet (but to at least 2,000 feet for wreckfish) where the annual water temperature range is sufficiently warm to maintain adult populations of members of this largely tropical complex. EFH includes the spawning area in the water column above the adult habitat and the additional pelagic environment, including *Sargassum*, required for larval survival and growth up to and including settlement. In addition the Gulf Stream is an essential fish habitat because it provides a mechanism to disperse snapper grouper larvae.

For specific life stages of estuarine dependent and nearshore snapper grouper species, essential fish habitat includes areas inshore of the 100-foot contour, such as attached macroalgae; submerged rooted vascular plants (seagrasses); estuarine emergent vegetated wetlands (saltmarshes, brackish marsh); tidal creeks; estuarine scrub/shrub (mangrove fringe); oyster reefs and shell banks; unconsolidated bottom (soft sediments); artificial reefs; and coral reefs and live/hard bottom.

Areas which meet the criteria for EFH-HAPCs for species in the snapper-grouper management unit include medium to high profile offshore hard bottoms where spawning normally occurs; localities of known or likely periodic spawning aggregations; nearshore hard bottom areas; The Point, The Ten Fathom Ledge, and Big Rock (North Carolina); The Charleston Bump (South Carolina); mangrove habitat; seagrass habitat; oyster/shell habitat; all coastal inlets; all state-designated nursery habitats of particular importance to snapper grouper (e.g., Primary and Secondary Nursery Areas designated in North Carolina); pelagic and benthic *Sargassum*; Hoyt Hills for wreckfish; the *Oculina* Bank Habitat Area of Particular Concern; all hermatypic coral habitats and reefs; manganese outcroppings on the Blake Plateau; and Council-designated Artificial Reef Special Management Zones (SMZs). In addition, the Council through CEBA 2 (SAFMC 2011) designated the deepwater snapper grouper MPAs and golden tilefish and

blueline tilefish habitat as EFH-HAPCs under the Snapper Grouper FMP as follows:

EFH-HAPCs for golden tilefish to include irregular bottom comprised of troughs and terraces inter-mingled with sand, mud, or shell hash bottom. Mud-clay bottoms in depths of 150-300 meters are HAPC. Golden tilefish are generally found in 80-540 meters, but most commonly found in 200-meter depths.

EFH-HAPC for blueline tilefish to include irregular bottom habitats along the shelf edge in 45-65 meters depth; shelf break or upper slope along the 100-fathom contour (150-225 meters); hardbottom habitats characterized as rock overhangs, rock outcrops, manganese-phosphorite rock slab formations, or rocky reefs in the South Atlantic Bight; and the Georgetown Hole (Charleston Lumps) off Georgetown, SC.

EFH-HAPCs for the snapper grouper complex to include the following deepwater Marine Protected Areas (MPAs) as designated in Snapper Grouper Amendment 14: Snowy Grouper Wreck MPA, Northern South Carolina MPA, Edisto MPA, Charleston Deep Artificial Reef MPA, Georgia MPA, North Florida MPA, St. Lucie Hump MPA, and East Hump MPA.

Deepwater Coral HAPCs designated in Comprehensive Ecosystem-Based Amendment 1 are designated as Snapper Grouper EFH-HAPCs: Cape Lookout Coral HAPC, Cape Fear Coral HAPC, Blake Ridge Diapir Coral HAPC, Stetson-Miami Terrace Coral HAPC, and Pourtales Terrace Coral HAPC.

Shrimp FMP

For penaeid shrimp, Essential Fish Habitat includes inshore estuarine nursery areas, offshore marine habitats used for spawning and growth to maturity, and all interconnecting water bodies as described in the Habitat Plan. Inshore nursery areas include tidal freshwater (palustrine), estuarine, and marine emergent wetlands (e.g., intertidal marshes); tidal palustrine forested areas; mangroves; tidal freshwater, estuarine, and marine submerged aquatic vegetation (e.g., seagrass); and subtidal and intertidal non-vegetated flats. This applies from North Carolina through the Florida Keys.

For rock shrimp, essential fish habitat consists of offshore terrigenous and biogenic sand bottom habitats from 18 to 182 meters in depth with highest concentrations occurring between 34 and 55 meters. This applies for all areas from North Carolina through the Florida Keys. Essential fish habitat includes the shelf current systems near Cape Canaveral, Florida, which provide major transport mechanisms affecting planktonic larval rock shrimp. These currents keep larvae on the Florida Shelf and may transport them inshore in spring. In addition, the Gulf Stream is an essential fish habitat because it provides a mechanism to disperse rock shrimp larvae.

Essential fish habitat for royal red shrimp include the upper regions of the continental slope from 180 meters (590 feet) to about 730 meters (2,395 feet), with concentrations found at depths of between 250 meters (820 feet) and 475 meters (1,558 feet) over blue/black mud, sand, muddy sand, or white calcareous mud. In addition, the Gulf Stream is an essential fish habitat because it provides a mechanism to disperse royal red shrimp larvae.

Areas which meet the criteria for EFH-HAPCs for penaeid shrimp include all coastal inlets, all state-designated nursery habitats of particular importance to shrimp (for example, in North Carolina this would include all Primary Nursery Areas and all Secondary Nursery Areas), and state-identified overwintering areas.

Coastal Migratory Pelagics FMP

Essential fish habitat for coastal migratory pelagic species includes sandy shoals of capes and offshore bars, high profile rocky bottom, and barrier island ocean-side waters, from the surf to the shelf break zone, but from the Gulf Stream shoreward, including *Sargassum*. In addition, all coastal inlets and all state-designated nursery habitats of particular importance to coastal migratory pelagics (for example, in North Carolina this would include all Primary Nursery Areas and all Secondary Nursery Areas).

For Cobia essential fish habitat also includes high salinity bays, estuaries, and seagrass habitat. In addition, the Gulf Stream is an essential fish habitat because it provides a mechanism to disperse coastal migratory pelagic larvae.

For king and Spanish mackerel and cobia essential fish habitat occurs in the South Atlantic and Mid-Atlantic Bights.

Areas which meet the criteria for EFH-HAPCs include sandy shoals of Capes Lookout, Cape Fear, and Cape Hatteras from shore to the ends of the respective shoals, but shoreward of the Gulf stream; The Point, The Ten-Fathom Ledge, and Big Rock (North Carolina); The Charleston Bump and Hurl Rocks (South Carolina); The Point off Jupiter Inlet (Florida); *Phragmatopoma* (worm reefs) reefs off the central east coast of Florida; nearshore hard bottom south of Cape Canaveral; The Hump off Islamorada, Florida; The Marathon Hump off Marathon, Florida; The “Wall” off of the Florida Keys; Pelagic *Sargassum*; and Atlantic coast estuaries with high numbers of Spanish mackerel and cobia based on abundance data from the ELMR Program. Estuaries meeting this criteria for Spanish mackerel include Bogue Sound and New River, North Carolina; Bogue Sound, North Carolina (Adults May-September salinity >30 ppt); and New River, North Carolina (Adults May-October salinity >30 ppt). For Cobia they include Broad River, South Carolina; and Broad River, South Carolina (Adults & juveniles May-July salinity >25ppt).

Golden Crab FMP

Essential fish habitat for golden crab includes the U.S. Continental Shelf from Chesapeake Bay south through the Florida Straits (and into the Gulf of Mexico). In addition, the Gulf Stream is an essential fish habitat because it provides a mechanism to disperse golden crab larvae. The detailed description of seven essential fish habitat types (a flat foraminiferan ooze habitat; distinct mounds, primarily of dead coral; ripple habitat; dunes; black pebble habitat; low outcrop; and soft-bioturbated habitat) for golden crab is provided in Wenner et al. (1987). There is insufficient knowledge of the biology of golden crabs to identify spawning and nursery areas and to identify HAPCs at this time. As information becomes available, the Council will

evaluate such data and identify HAPCs as appropriate through the framework.

Spiny Lobster FMP

Essential fish habitat for spiny lobster includes nearshore shelf/oceanic waters; shallow subtidal bottom; seagrass habitat; unconsolidated bottom (soft sediments); coral and live/hard bottom habitat; sponges; algal communities (*Laurencia*); and mangrove habitat (prop roots). In addition the Gulf Stream is an essential fish habitat because it provides a mechanism to disperse spiny lobster larvae.

Areas which meet the criteria for EFH-HAPCs for spiny lobster include Florida Bay, Biscayne Bay, Card Sound, and coral/hard bottom habitat from Jupiter Inlet, Florida through the Dry Tortugas, Florida.

Coral, Coral Reefs, and Live/Hard Bottom Habitats FMP

Essential fish habitat for corals (stony corals, octocorals, and black corals) incorporate habitat for over 200 species. EFH for corals include the following:

- A. Essential fish habitat for hermatypic stony corals includes rough, hard, exposed, stable substrate from Palm Beach County south through the Florida reef tract in subtidal waters to 30 m depth; subtropical (15°-35° C), oligotrophic waters with high (30-35‰) salinity and turbidity levels sufficiently low enough to provide algal symbionts adequate sunlight penetration for photosynthesis. Ahermatypic stony corals are not light restricted and their essential fish habitat includes defined hard substrate in subtidal to outer shelf depths throughout the management area.
- B. Essential fish habitat for *Antipatharia* (black corals) includes rough, hard, exposed, stable substrate, offshore in high (30-35‰) salinity waters in depths exceeding 18 meters (54 feet), not restricted by light penetration on the outer shelf throughout the management area.
- C. Essential fish habitat for octocorals excepting the order Pennatulacea (sea pens and sea pansies) includes rough, hard, exposed, stable substrate in subtidal to outer shelf depths within a wide range of salinity and light penetration throughout the management area.
- D. Essential fish habitat for Pennatulacea (sea pens and sea pansies) includes muddy, silty bottoms in subtidal to outer shelf depths within a wide range of salinity and light penetration.

Areas which meet the criteria for EFH-HAPCs for coral, coral reefs, and live/hard bottom include: The 10-Fathom Ledge, Big Rock, and The Point (North Carolina); Hurl Rocks and The Charleston Bump (South Carolina); Gray's Reef National Marine Sanctuary (Georgia); The *Phragmatopoma* (worm reefs) reefs off the central east coast of Florida; Oculina Banks off the east coast of Florida from Ft. Pierce to Cape Canaveral; nearshore (0-4 meters; 0-12 feet)

hard bottom off the east coast of Florida from Cape Canaveral to Broward County); offshore (5-30 meter; 15-90 feet) hard bottom off the east coast of Florida from Palm Beach County to Fowey Rocks; Biscayne Bay, Florida; Biscayne National Park, Florida; and the Florida Keys National Marine Sanctuary. In addition, the Council through CEBA 2 (SAFMC 2011) designated the Deepwater Coral HAPCs as EFH-HAPCs under the Coral FMP as follows:

Deepwater Coral HAPCs designated in Comprehensive Ecosystem-Based Amendment 1 as Snapper Grouper EFH-HAPCs: Cape Lookout Coral HAPC, Cape Fear Coral HAPC, Blake Ridge Diapir Coral HAPC, Stetson-Miami Terrace Coral HAPC, and Pourtales Terrace Coral HAPC.

Dolphin and Wahoo FMP

EFH for dolphin and wahoo is the Gulf Stream, Charleston Gyre, Florida Current, and pelagic *Sargassum*. This EFH definition for dolphin was approved by the Secretary of Commerce on June 3, 1999 as a part of the South Atlantic Council's Comprehensive Habitat Amendment (SAFMC 1998b) (dolphin was included within the Coastal Migratory Pelagics FMP at that time).

Areas which meet the criteria for EFH-HAPCs for dolphin and wahoo in the Atlantic include The Point, The Ten-Fathom Ledge, and Big Rock (North Carolina); The Charleston Bump and The Georgetown Hole (South Carolina); The Point off Jupiter Inlet (Florida); The Hump off Islamorada, Florida; The Marathon Hump off Marathon, Florida; The "Wall" off of the Florida Keys; and Pelagic *Sargassum*. This EFH-HAPC definition for dolphin was approved by the Secretary of Commerce on June 3, 1999 as a part of the South Atlantic Council's Comprehensive Habitat Amendment (dolphin was included within the Coastal Migratory Pelagics FMP at that time).

Pelagic *Sargassum* Habitat FMP

The Council through CEBA 2 (SAFMC 2011) designated the top 10 meters of the water column in the South Atlantic EEZ bounded by the Gulfstream, as EFH for pelagic *Sargassum*.

Actions Implemented That Protect EFH and EFH-HAPCs

Snapper Grouper FMP

- Prohibited the use of the following gears to protect habitat: bottom longlines in the EEZ inside of 50 fathoms or anywhere south of St. Lucie Inlet, Florida; bottom longlines in the wreckfish fishery; fish traps; bottom tending (roller- rig) trawls on live bottom habitat; and entanglement gear.
- Established the *Oculina* Experimental Closed Area where the harvest or possession of all species in the snapper grouper complex is prohibited.
- Established deepwater Marine Protected Areas (MPAs) as designated in Snapper Grouper Amendment 14: Snowy Grouper Wreck MPA, Northern South Carolina MPA, Edisto MPA, Charleston Deep Artificial Reef MPA, Georgia MPA, North Florida MPA,

St. Lucie Hump MPA, and East Hump MPA.

Shrimp FMP

- Prohibition of rock shrimp trawling in a designated area around the *Oculina* Bank,
- Mandatory use of bycatch reduction devices in the penaeid shrimp fishery,
- Mandatory Vessel Monitoring System (VMS) in the Rock Shrimp Fishery.
- A mechanism that provides for the concurrent closure of the EEZ to penaeid shrimping if environmental conditions in state waters are such that the overwintering spawning stock is severely depleted.

Pelagic Sargassum Habitat FMP

- Prohibited all harvest and possession of *Sargassum* from the South Atlantic EEZ south of the latitude line representing the North Carolina/South Carolina border (34° North Latitude).
- Prohibited all harvest of *Sargassum* from the South Atlantic EEZ within 100 miles of shore between the 34° North Latitude line and the Latitude line representing the North Carolina/Virginia border.
- Harvest of *Sargassum* from the South Atlantic EEZ is limited to the months of November through June.
- Established an annual Total Allowable Catch (TAC) of 5,000 pounds landed wet weight.
- Required that an official observer be present on each *Sargassum* harvesting trip. Require that nets used to harvest *Sargassum* be constructed of four inch stretch mesh or larger fitted to a frame no larger than 4 feet by 6 feet.

Coastal Migratory Pelagics FMP

- Prohibited of the use of drift gillnets in the coastal migratory pelagic fishery.

Golden Crab FMP

- In the northern zone, golden crab traps can only be deployed in waters deeper than 900 feet; in the middle and southern zones traps can only be deployed in waters deeper than 700 feet.
 - Northern zone - north of the 28°N. latitude to the North Carolina/Virginia border;
 - Middle zone - 28°N. latitude to 25° N. latitude; and
 - Southern zone - south of 25°N. latitude to the border between the South Atlantic and Gulf of Mexico Fishery Management Councils.

Coral, Coral Reefs and Live/Hard Bottom FMP

- Established an optimum yield of zero and prohibiting all harvest or possession of these resources which serve as essential fish habitat to many managed species.
- Designated the *Oculina* Bank Habitat Area of Particular Concern.
- Expanded the *Oculina* Bank Habitat Area of Particular Concern (HAPC) to an area bounded to the west by 80°W. longitude, to the north by 28°30' N. latitude, to the

south by 27°30' N. latitude, and to the east by the 100 fathom (600 feet) depth contour.

- Established the following two Satellite *Oculina* HAPCs: (1) Satellite *Oculina* HAPC #1 is bounded on the north by 28°30'N. latitude, on the south by 28°29'N. latitude, on the east by 80°W. longitude, and on the west by 80°3'W. longitude; and (2) Satellite *Oculina* HAPC #2 is bounded on the north by 28°17'N. latitude, on the south by 28°16'N. latitude, on the east by 80°W. longitude, and on the west by 80°3'W. longitude.
- Prohibited the use of all bottom tending fishing gear and fishing vessels from anchoring or using grapples in the *Oculina* Bank HAPC.
- Established a framework procedure to modify or establish Coral HAPCs.
- Established the following five deepwater CHAPCs:
 - Cape Lookout Lophelia Banks CHAPC;
 - Cape Fear Lophelia Banks CHAPC;
 - Stetson Reefs, Savannah and East Florida Lithoherms, and Miami Terrace (Stetson- Miami Terrace) CHAPC;
 - Pourtales Terrace CHAPC; and
 - Blake Ridge Diapir Methane Seep CHAPC.
- Within the deepwater CHAPCs, the possession of coral species and the use of all bottom damaging gear are prohibited including bottom longline, trawl (bottom and mid-water), dredge, pot or trap, or the use of an anchor, anchor and chain, or grapple and chain by all fishing vessels.

South Atlantic Council Policies for Protection and Restoration of Essential Fish

Habitat

SAFMC Habitat and Environmental Protection Policy

In recognizing that species are dependent on the quantity and quality of their essential habitats, it is the policy of the SAFMC to protect, restore, and develop habitats upon which fisheries species depend; to increase the extent of their distribution and abundance; and to improve their productive capacity for the benefit of present and future generations. For purposes of this policy, “habitat” is defined as the physical, chemical, and biological parameters that are necessary for continued productivity of the species that is being managed. The objectives of the SAFMC policy will be accomplished through the recommendation of no net loss or significant environmental degradation of existing habitat. A long-term objective is to support and promote a net-gain of fisheries habitat through the restoration and rehabilitation of the productive capacity of habitats that have been degraded, and the creation and development of productive habitats where increased fishery production is probable. The SAFMC will pursue these goals at state, Federal, and local levels. The Council shall assume an aggressive role in the protection and enhancement of habitats important to fishery species, and shall actively enter Federal, decision making processes where proposed actions may otherwise compromise the productivity of fishery resources of concern to the Council.

SAFMC EFH Policy Statements

In addition to implementing regulations to protect habitat from fishing related degradation, the Council in cooperation with NOAA Fisheries, actively comments on non-fishing projects or policies that may impact fish habitat. The Council adopted a habitat policy and procedure document that established a four-state Habitat Advisory Panel and adopted a comment and policy development process. Members of the Habitat Advisory Panel serve as the Council’s habitat contacts and professionals in the field. With guidance from the Advisory Panel, the Council has developed and approved a number of habitat policy statements which are available on the Habitat and Ecosystem section of the Council website (<http://www.safmc.net/ecosystem/Home/EcosystemHome/tabid/435/Default.aspx>).

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